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EXCLUSIVE CONTRIBUTIONS

Dental Laws of the United States.*

By R. OTTOLENGUI, M.D.S.

So many letters are received from students and dentists asking for information in relation to the dental laws, that it seemed that a comprehensive synopsis of the various legislative enactments would serve a useful purpose. As some of the statutes are tediously long, and in some instances complex, it occurred to me to prepare a map coloring the several states in accord with a dogmatic scheme of classification, which would indicate at a glance the essential information sought by the inquirer. This map has been made and is so simple that no special explanation of its meaning seems necessary.

In order that other interesting facts might also be clearly indicated, a synoptic table has also been compiled and is published with this. I must acknowledge the invaluable services in this work of Dr. Chas. A. Meeker and Dr. L. Ashley Faught.

Dr. Meeker, as secretary of the National Association of Dental Examiners, had communicated with all State Board secretaries in relation to the laws, and kindly gave me access to their replies. Dr. Faught had made a collection of the printed statutes. Both of these gentlemen kindly visited me in New York, and with their aid, the matter herewith offered is seemingly made correct.

The most casual glance at the colored map emphasizes certain features of our dental laws, which would scarcely be observed by one who reads the printed statutes. The first noteworthy fact is that one class of laws maintain in several contiguous states, the Mississippi valley and the Pacific coast being of the same color, an intervening streak of "blue laws" extending uninterruptedly from north to south through the centre of the great western section. Another curious fact is that nearly all of the States in which are found dental colleges, have the "blue law" which insists upon further examination of graduates. It would seem that the communities in which diplomas are granted, have the least respect for the sacred parchment.

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Synopsis of State Dental Laws.

| STATE. | Board Organized Year | Number of Members. | Appointed by the Government. | Elected by the Society. | Qualification to Practice. | Fee for Examination or Registration. | Members of the N. A. of D. E. |
|-----------------------|----------------------------|--------------------------|------------------------------------|----------------------------|----------------------------------|--|-------------------------------------|
| Alabama..... | 1881 | 5 | | Yes | B. | \$5.00 | Yes |
| Arizona..... | 1894 | 5 | Yes | No | C. | \$25.00 & 5 00 | Yes |
| Arkansas..... | 1887 | 5 | Yes | | D. | 5.00 | Yes |
| California..... | 1885 | 7 | Yes | | C. | 10.00 | |
| Colorado..... | 1897 | 5 | Yes | | A. | 10.00 | Yes |
| Connecticut..... | 1893 | 5 | Yes | No | B. | 25.00 | Yes |
| Delaware..... | 1863 | 5 | Yes | | A. | 25.00 & 1.00 | Yes |
| District Colombia.... | 1892 | 5 | Dist. Com. | | C. | 10.00 & 1.00 | Yes |
| Florida..... | 1887 | 5 | Yes | Nominated | A. | 10.00 & .50 | Yes |
| Georgia..... | 1872 | 5 | Yes | Nominated | A. | 10.00 | Yes |
| Illinois..... | 1897 | 5 | Yes | | C. | 1.00 & 1.00 | Yes |
| Indiana..... | 1880 | 5 | One | Three | C. | 5.00 & 1.00 | Yes |
| Iowa..... | 1882 | 5 | Yes | No | C. | 10.00 & 2.00 | Yes |
| Kansas..... | 1885 | 4 | Yes | | C. | 20.00 & 10.00 | Yes |
| Kentucky..... | 1878 | 5 | | Yes | C. | 5.00 | Yes |
| Louisiana..... | 1880 | 5 | Yes | | D. | 1.00 | Yes |
| Maine..... | 1891 | 5 | Yes | No | B. | 20.00 | Yes |
| Maryland..... | 1896 | 6 | Yes | Yes | A. | 10.00 | Yes |
| Massachusetts..... | 1887 | 5 | Yes | | B. | 20.00 | Yes |
| Michigan..... | 1889 | 3 | Yes | No | C. | 10.00 & 3.00 | No |
| Minnesota..... | 1889 | 5 | Yes | | B. | 10.00 | No |
| Mississippi..... | 1882 | 5 | Yes | No | B. | 10.00 | Yes |
| Missouri..... | 1897 | 5 | Yes | | C | 10.00 & 1.00 | Yes |
| Montana .. | 1895 | 5 | Yes | | A. | 15.00 & 10.00 | No |
| Nebraska.... | 1895 | 3 | Yes | | C. | 10.00 & 2.00 | Yes |

| | 1892 | 3 | Yes | No | B. | 5.00 & 5.00 | No |
|-----------------------|------------------------------------|----|--------------------|-----------|----|--------------|-----|
| New Hampshire..... | 1892 | 3 | Yes | No | B. | 5.00 & 5.00 | No |
| New Jersey..... | 1870-1890 | 5 | Yes | One | A. | 25.00 | Yes |
| New Mexico.... | 1895 | 5 | Yes | | C. | 25.00 & 5.00 | Yes |
| New York..... | 1868 | 8 | Regents | Nominated | A. | 25.00 & 1.00 | No |
| North Carolina..... | 1897 | 6 | No | Yes | B. | 10.00 | Yes |
| North Dakota,..... | 1888 | 5 | Yes | | C. | 10.00 & 1.00 | Yes |
| Ohio..... | 1892 | 5 | Yes | No | C. | 10.00 & 2.00 | Yes |
| Oklahoma..... | 1890 | 5 | Yes | | C. | 10.00 | No |
| Oregon..... | 1887 | 4 | Yes | | C. | 26.00 & 6.00 | Yes |
| Pennsylvania..... | 1897 | 6 | Yes | | A. | 15.00 | Yes |
| Rhode Island..... | 1888 | 5 | Yes | | B. | 10.00 & 2.00 | Yes |
| South Carolina.... | 1875 | 5 | No | Yes | C. | 15.00 | Yes |
| South Dakota..... | 1885 | 5 | Yes | | C. | 10.00 | No |
| Tennessee..... | 1891 | 6 | Yes | | C. | 5.00 & 5.00 | Yes |
| Texas..... | 1897 | 6 | Yes | Yes | A. | 10.00 & .50 | No |
| Utah..... | 1894 | 5 | Yes | | C. | 5.00 | No |
| Vermont..... | 1883 | 5 | Yes | | C. | 5.00 | No |
| Virginia..... | | 6 | Yes | | A. | 10.00 | Yes |
| Washington..... | 1888 | 5 | Yes | | A. | 25.00 | No |
| West Virginia..... | 1881 | 12 | Board Public Works | | B. | 6.00 | No |
| Wisconsin..... | 1885 | 5 | Yes | | C. | 10.00 & 1.00 | Yes |
| Wyoming..... | 1893 law passed | | | | A. | .50 | No |
| Alaska..... | No dental law— I dentist in 1896. | | | | | | |
| Idaho..... | No dental law—46 dentists in 1896. | | | | | | |
| Indian Territory..... | No dental law—37 dentists in 1896. | | | | | | |

Explanation of Terms in Qualification Column.

A.—Signifies: Examine Graduates only—Non-graduates cannot receive license.

B.— “ Examine Graduates and also non-graduates.

C.— “ License Graduates without examination and examine non-graduates.

D.— “ License Graduates without examination—Non-graduates cannot receive license.

Additional Information.

Alabama.—License of Board granted to practitioners of five years' practice without examination. Require eighty per cent. to pass.

Connecticut.—License may be revoked for cause.

District of Columbia.—New law expected shortly requiring diploma for examination.

Georgia.—Also examines licensees of other States. Board may revoke license for "cruelty, incapacity, unskillfulness, gross negligence, indecent conduct towards patients, or unprofessional conduct."

Illinois.—New and more stringent law expected at next session of Legislature.

Maryland.—The first Board was organized in 1884.

Massachusetts—Fee entitles candidate to two trials, after which an additional fee of \$5 is charged for each examination.

Michigan—Diploma must be from a college recognized by the Michigan Board.

Mississippi.—The State Society nominates ten men from whom the Governor appoints the Board.

New Jersey.—New law pending, which will license graduates from colleges having a specified standing of preliminary education or higher. Graduates from other colleges will not be permitted to practice.

New Mexico.—Recognizes diplomas only from colleges recognized by the National Association of Dental Examiners.

New York.—Board of Censors organized 1868, were elected by the State Society, and granted a diploma giving the degree Master of Dental Surgery. Merged into State Board of Examiners 1895. Appointed by the Regents from men nominated by the State Society. The degree M.D.S. can now be conferred only on college graduates and is, therefore, a post graduate degree. License can be revoked by the Regents for sustained charges of unprofessional conduct, or upon conviction of a crime.

Pennsylvania.—License of Council issued on certified copies of licenses of other State Boards or other State Boards of Health without further examination.

Rhode Island.—Examination written and oral in fourteen branches.

South Carolina.—Without a diploma the applicant receives especially stringent examination.

Esthetic Prosthetic Dentistry.

By J. L. DAVENPORT, D.D.S., North Adams, Mass.

It is assumed that every dentist, of experience, knows how to select teeth for artificial substitutes, and insert them so as to attain the two objects; namely, utility as masticators and sufficient naturalness to deceive the ordinary observer. After over twenty-five years in practice, I am convinced that the average dentist falls far short of the desired goal. It is my purpose to make a few suggestions which may be of benefit.

In this article I have nothing to say regarding the fixtures that carry the teeth, but only their colors and arrangement. Every lady who is so unfortunate as to require artificial teeth, is usually more concerned regarding their appearance than their use as masticators. We all know how utterly most of us fail to attain the two requirements. I am aware that many cases present to us great difficulties, but I am confident that we can come much nearer this attainment, if we would only be bold enough to break away from the almost universal rule that has been observed in our offices for years. Every dentist knows how shockingly frequent are the mouths of "store teeth" one meets, especially in a country community. I am aware that dentists in all small towns are very much handicapped in this matter, owing to the low prices prevailing. I have for years had an antipathy against the gum sections that are so often used. Of course the ease with which they can be mounted and polished upon a rubber base, and the extremely low prices, at which the dentist is obliged to supply them, is an excuse for their use. I know dentists who have got so in the habit of using them, that they seldom try to deviate, or use anything else for false sets. They well know that they are putting substitutes into their patients' mouths that may be recognized at once as "artificial," but still they go on doing the same year after year. It has become disgusting to note the large number of sets of this kind one meets in a country village. We have cases, however, where we would like to supply something less artificial in appearance. What suggestions I have to offer, may, perhaps, be as well explained if I describe a set recently completed.

**Teeth Arranged
to Imitate
Nature.**

The patient was a lady past middle age requiring an entire upper set. The mouth had shrunk badly, the gums had become flabby by a plate worn constantly night and day for ten or fifteen years. The case afforded exceptional opportunity for

concealing the artificiality of the substitutes. In fact the set that had been worn so long was yet doing good service, and so far as appearance goes, was remarkable for its *beauty*, but the lady, going much in society, was particularly anxious to have teeth that would pass as natural, if possible, to many of her friends at least, if not to the more critical eye of the dentist.

I selected for the case a set of fourteen plain rubber, of exceptionally long bite, the wasting away of the gums warranting such a course. I tried in the six front on wax. They would have served the purpose admirably as we both decided, but I wished to do for the patient something out of the usual line, and, if possible, complete a set that would not be detected as artificial by the ordinary observer, if indeed they would be by the dentist, unless very closely inspected.

I therefore discarded the set of fourteen, and selected from my miscellaneous and broken sets two centrals and laterals which were suitable, although the four did not absolutely match; two cuspids, one shading on the yellow and the other a decided blue. Back of the yellow cuspid I put a very blue bicuspid, and back of the blue cuspid I put a bicuspid very near a match of the incisors. The second bicuspids and molars needed no particular care, as they were not shown in laughing. In arranging these teeth, one of the centrals was pushed out a very little, the two laterals lapped over the centrals very slightly, though both were not in the same position; one of the cuspids was twisted so as to show its face front, the other one in the opposite position. Back of the left bicuspid I arranged a space indicating one extracted and the space partly closed.

This set was mounted on three kinds of rubber—pink, black and red—the red back of the rivets with only a coating of black which came in contact with the mouth, and a pink-gum over the front teeth and back on the sides as far as necessary in event of the plate being exposed in laughing. In this case, however, the pink gum was unnecessary, as the upper lip was unusually long, and in smiling was but slightly raised.

Every dentist knows how impossible it is to make the pink rubber match the mucous membrane. I should have used the single gum rubber teeth had any part of the latter been likely to be exposed. The same patient had worn for ten or fifteen years a set of single gum teeth mounted on black rubber, and it had been considered exceedingly natural in appearance. The same kind of arrangement was observed in two sets.

I put a gold filling in the right cuspid, one in the left central and one in the first left bicuspid. This, combined with the arrangement and the blue cuspid and bicuspid, completes a set that even some dentists, except upon close inspection, would not detect as artificial.

In the most perfect set of natural teeth, the cuspids are one or two shades darker than the incisors. I have often wondered why the manufacturers do not make such a deviation in some of their sets. I admit also that the great majority of patients object to having dark teeth inserted. They want sets that will deceive their friends, but often object to shades dark enough not to have a ghostly appearance. A very good rule for dentists is to select a darker tooth than the one they wish to match, if the exact shade cannot be obtained. Another point to remember is that a porcelain tooth, if of the same shade as the one in the mouth, will in most lights, after insertion, have a dead appearance, very unlike the natural tooth it is intended to match. This is especially so by gas-light; hence the rule, select a shade darker.

Another point we often lose sight of is, that where people retain their own teeth until the age of fifty or sixty, in a great many cases some of the front teeth will have become devitalized and will have changed to a blue or muddy yellow; hence the excuse for the insertion of that class of teeth occasionally. I know most ladies would object to this kind of work, for they want their new teeth to be handsome, losing sight of the fact that, in most cases, handsome teeth do not resemble natural ones.

The Voice of the Siren.

"Heed it not, Duncan; for it is a knell
That summons thee to heaven or to hell."
—*Macbeth*, Act 2, Scene 1.

By WILLIAM W. BELCHER, D.D.S., Rochester, N. Y.

The question of advertising is one that will not down; its discussion a questionable benefit, and we may safely leave it to the individual for settlement. If he considers advertising a business card in a select medium as violating the code, then it is a sin for that man to advertise; but he should grant the right of his brother to view the subject from a more liberal standpoint and be honest in his convictions.

Viewing from afar the good editor, who, although paying considerable attention to the subject of advertising, had not definitely stated his position, I was tempted in a weak moment, to contribute an article in the January issue, to which he has extended the honor of a somewhat lengthy editorial.

Allow me to state in the beginning, that as I have served an apprenticeship of fifteen years in dentistry and during that time launched six students on an innocent and unsuspecting public, my views are presented without even the excuse of youth.

The editor has well defined advertising in the public prints as "a paid announcement," and says furthermore that if a dentist advertises at all, "he claims that he himself is better than his neighbor, in other words and in plain, simple English, he brags about himself."

I want to take issue with that statement. A man who advertises his name and address does nothing of the kind, he simply makes known the fact that he *exists*, not that he is better than his neighbors. This is a privilege that is extended to every profession and is sanctioned by the code of ethics of the New York State Dental Society.

In every country paper you will find in one corner of the first page, a directory containing the business card, of reputable physicians, lawyers and dentists; although all three are opposed to advertising as such.

Local conditions must be taken into consideration, and what would be strictly ethical in one place might be open to suspicion in another; thus, in a country village, a church fair or sale is inaugurated, or, perhaps, it may be a hook and ladder company that is to be benefited. A publication to further the interests of the fair is instituted; an appeal is made for advertisements, as this is in part a source of revenue; the committee visits the dentist, his standing in the community, his bread and butter are at stake, he may not need or desire the business card offered him, but if he refuses, he places himself outside the interests of his town; each advertiser is looked upon as a desirable citizen. What would be right for him, would be out of place in a cosmopolitan city; for some places and some people are provincial, like Philadelphia, Boston and—Rochester; while some are cosmopolitan, but the bob-tail cross town car is one of the features of the said-to-be-metropolis; whereas even in the small country towns it is now regarded as a relic of the dark ages: Wherefore should these cosmopolitan gentlemen quote ethics to the provincials?

I have a feeling of sorrow and pity for the man who believes himself so little in the confidence of his patrons that he would be "ruined" by inserting his business card in a church publication.

Some there are whose practice might be improved by an advertisement in the *Police Gazette*, whereas a card in a respectable church publication would prove their undoing.

It is only the child that fears a painted god and a patient that does not feel he is receiving services better than could be obtained elsewhere, is better lost than retained.

The church publication as an advertising medium, I grant you, is no more righteous than the theatre programme, but the latter has been monopolized by the quack, hence its value as an advertising medium for

the reputable practitioner is destroyed. Many of the church publications, on the contrary, are as respectable as the practitioner. Space costs more per thousand circulation than other mediums, and reaches a class of high intelligence who are not shopping for the cheapest man; the advertisers are of a high class, and if you desire to exclude the quack, it is only necessary to make an agreement that your contract is void if objectionable matter is inserted; "a bird in the hand is worth two in the bush" reasons the publisher.

The question of directory advertising is beneath consideration: as an advertising medium for the dentist, it is simply money thrown away that could be better expended in riotous living. The question asked, "could the advertiser mention in small type that his business is dentistry?" why not? The same is done by the oculist and the throat specialist.

Again the editor asks, "could he say examination five dollars?" No, not according to the code of ethics, but such an announcement, although unethical would be pointed to with pride by his brethren as an evidence that they were a profession and their seats with the high and mighty.

It is a fact that a man may advertise and although debarred from the society be voted a "good fellow" by his confreres. This is exemplified by a practitioner in a Western town, who is advertising in the daily prints, not cheap dentistry, but good dentistry at a higher fee than is received by any but a chosen few.

On the other hand, I am acquainted with a practitioner whose position with the public and the profession is unquestioned: mentally, socially and professionally the peer of his fellows, but who, as a matter of conscience, exacts only a moderate fee for his services, but because he has not so exalted an opinion of his ability as to demand a higher fee than his neighbors, he is said to injure the profession and good dentistry; were it not that in honoring him, they honor themselves, he might receive small courtesy from his colleagues.

**Demand
for
Cheap Dentistry.**

It is impossible for all to be "big fellows," some must of necessity occupy a lower position—"the poor ye have with you always," there is a legitimate demand for cheap dentistry among the people of limited means and must and ought to be supplied; if not by the young man just entering practice, then by the dental parlors.

"You talk in your societies and the dental magazines of maintaining fees and I am looked down upon for accepting fees less than the standards of the older practitioners," says the young man; but who created the demand? who catered to it, the young man? No—the demand for cheap dentistry was before him, he is simply satisfying a demand that

was created by the respectable elder practitioner, who, tell it not in Gath, hesitated not to advertise his wares in no uncertain language in bygone days, for dentistry has advanced and to be respectable one can not be a charlatan.

I have examined many old dental advertisements of men who are today of the elect, and could the fact be known, there are few practitioners whose advent in dentistry, not a great many years ago, was not aided by the public prints.

I knew a college Dean, professors and society members by the score, who used the public prints to their own advantage; some of their advertisements would fill the heart of the modern quack with envy. Even the historic mile post as an advertising medium was not neglected by one who passes for a wise man in the councils of his society.

It has been truthfully said that the greatest kickers against the abolition of slavery were the slaveholders who originally came from New England and traded their rum for 'niggers;' and the men who have advertised in a flagrant manner in the past are most bitter in denying the right of the young man to make himself known by an announcement of name and address.

**Etiology
of the Quack.**

But the advertising man of today—"the quack;" who is he? where did he come from? We find him as proprietor, manager, partner, assistant or "plate boiler" in the modern dental parlors of the city. From the college, say you? Ah, but how is this; surely, the college graduate knows better than thus to prostitute himself and his *alma-mater* to the dust by resorting to the wiles and guiles of trade. But here he is; a condition and not a theory, how came he thusly? Competition, the struggle for existence, the survival of the fittest, the destruction of the weaker, call it what you may, in short, the man, perchance he be blessed with a family, must live.

He starts out fresh from college to locate in a big city, a copy of the code of ethics in his pocket and Longfellow's "Excelsior" in his heart, determined to do or die. He casts his tent just outside the walls of the mighty, fits his office as best he can. To this end the folks at home send him money, the dental depot extends him credit. He waits for the people of the street to ascertain the fact that a superior dentist has located himself in their midst; but they pass him by; the new and shining sign attracts the eye for a moment, but his existence is soon forgotten by all save the landlord, and rent day comes with relentless regularity. He that has time for an adversary has an opponent that is not subject to casualties. His small savings soon dwindle; the modern god of rents destroys him, but he must live; away with the code of ethics! Then

happens a strange thing: this professional man who has toiled so hard for his degree, who has expended an equivalent of \$3,000 in time and money to enable him to practice dentistry, hies himself away as assistant, later as proprietor of a dental parlor. In short, he advertises his superiority, his low fees; for there is nothing for which credit is so eagerly extended as advertising.

He makes a living—perhaps more, but he has sacrificed himself, his degree and his *alma-mater* to mammon; the proprietor of a meat market around the corner is making more money and is looked up to with as much respect.

But the editor denies the right of this young man entering practice to announce himself by a business card in a select medium. Where did he receive his authority?

A suspicion steals over me that he has created a code all for himself. This is allowable in religion but not in politics or dentistry. One might, after reading the editorial in the February issue, question the right of the young man to live. It was like reading an American Express receipt, "not responsible for loss or damage by fire, flood, mob, war, or the act of God"—one wonders "where he is at" and if there is anything really secure.

What say the code of ethics of the New York State Dental Society, which, in turn, is modelled after that of the American Dental Association; here it is in part:

**New York Code
Permits
Advertising.**

"Section 3. It is unprofessional to resort to public advertisements, cards, handbills, posters or signs, calling attention to peculiar styles of *work*, lowness of prices, special modes of operating or to claim superiority over neighboring practitioners, to publish reports of cases, or certificates in the public prints, to go from house to house to solicit or perform operations, to circulate or recommend nostrums or to perform any other similar acts." *But nothing in this section shall be so construed as to imply that it is unprofessional for Dentists to announce in the public prints, or by card, simply their names, occupation and place of business; or in the same manner to announce their removal, absence from or return to business; or to issue to their patients appointment cards having a fee bill for professional services thereon."*

Dr. Ottolengui has accused me of attacking the code of ethics. I deny the charge, let me repeat; "should the young man desire to advertise his name and address in a select weekly or church publication that is not used by the quack, I can see no harm."

In recent numbers of ITEMS OF INTEREST there have appeared a series of very helpful illustrations of office interiors. To me it has been

one of the most interesting departments; they are in themselves without censure, unless it be that the dentist's office address might be omitted.

The former editor, Brother Welch, had the pictures "took" of our prominent professional men and made the same a feature of his journal. Some there were, to my knowledge, who refused the loan of their faces for any such purpose. But the present editor, unwittingly, I take it, has gone him one better and out-herods—Herod, and pictures him and his office. Let us have the office plans and the furnishings; a stolen glance, as it were, on Saturday afternoon when everything is spick and span and the dentist enjoying a well earned holiday. But leave us, please, something to the imagination; keep the good man out of the office. We will grant that he is in appearance an Adonis and above ordering extra copies, or reprints of the publishers for distribution, "over that field from which he garners his corn," but this is hardly consistent from one who is above advertising his card in a select weekly or church publication.

"Let us be honest not only with others, but with ourselves. Let us preach and practice, or if we cannot practice let us cease to preach."

Nonoxygenation of the Blood by Nitrous Oxide Gas.

By W. F. DEEKENS, Mathews, Va.

I read an article in the January number of *The Dental Office and Laboratory*, clipped from ITEMS OF INTEREST, entitled "Nitrous Oxide Gas." The writer after commenting upon the harmless nature of stale gas administered as an anæsthetic, goes on to say that when pure and fresh gas is inhaled, there is no reaction—differing from other stimulants in this respect, and gives as a reason that "it acts upon the blood and not on the substance of the lungs and other organs;" continuing, the writer says: "consumptive patients will feel stronger for days after inhaling it, because it supplies to the blood that element, oxygen, for the lack of which they are growing weaker and weaker; the good effects are only temporary, however."

I must take issue with the writer on this point, and state that the blood does not take up any of the oxygen contained in the nitrous oxide gas. Although the atmospheric air when quite pure and perfectly dry, contains the two same gases (nitrogen and oxygen), as nitrous oxide gas and very nearly in the same proportions, yet that little difference and the way they combine, alters their natures very materially.

The air being a mechanical mixture, when taken into the lungs, is broken up into its constituent gases, and the oxygen is distributed to the blood by the red corpuscles; nitrous oxide, being a chemical compound, remains in its compound state in the lungs and thus prevents the ingress of atmospheric air.

The body instead of receiving an abnormal supply of the life giving gas, is deprived of it, the face of the patient testifying to this by its livid hue, showing clearly that there is asphyxiation or nonoxygenation of the blood.

I acknowledge that consumptive patients are apparently benefited by the inhalation of an atmosphere charged with a larger per cent. of oxygen than is normal, and for this reason they often resort to higher altitudes for relief, but in my practice, I have always strenuously opposed the administration of nitrous oxide gas to those suffering with tuberculosis, especially where the symptoms were strongly marked.

I would be glad to hear from some of the older, and abler, and more experienced members of the profession on this subject, as it is a matter that ought to be carefully considered.





Some Cements.

By W. V. B. AMES, Chicago, Ill.

Read before the New Jersey State Dental Society, July, 1897.

Gold in Oxyphosphate.

Somewhat over a year ago I observed that certain forms of precipitated gold seemed to have a chemical effect when mixed with oxyphosphates. The action indicated that oxide of gold was a cement maker, which proved to be the case, the intensity of the effect on the oxyphosphate being in proportion to the oxidation of the gold crystals during precipitation. The effect of a rich, golden-brown precipitate on oxyphosphates, with which it was mixed, was apparently so satisfactory that I was much encouraged in its use, making numerous test fillings during the latter part of last year, and giving a clinic demonstrating its use at the clinics held in Chicago in February of this year.

Soon after that I was asked by your committee to present the matter to you in the form of a short paper. By that time I had ceased experimenting on my patients, awaiting the test of time to decide its value; so I promised your committee to present this or some kindred matter. I am sorry to state that this admixture of gold, which improved the setting qualities, gave very satisfactory gray tints when mixed with light-colored oxyphosphates, and extreme hardness of mass, has not really added to the permanency of fillings made in the mouth to the extent that I at first expected, and which would justify me in encouraging others to experiment on their patients in this line. Where a cement filling is called for by the conditions, and the gray color of the mixture will be satisfactory, I still use it, as I feel that the gold has the power of improving the working qualities, and will, in time, perhaps, be found to add considerably to the permanency. My observations of fillings of this kind, after nine months, generally, seem to show about the same slight wasting from attrition that I ordinarily see from the better cements without the gold admix-

ture, with an occasional filling, however, retaining contour perfectly. This encourages me to continue, since a variety of forms of gold were used in my earlier work, and I think I have now ascertained the most desirable form.

This gold is not easily obtained. A precipitate, or crystal, with too little of the oxide is not satisfactory, since the gold in this case does not chemically enter into the mass, and too much oxidation of the crystal will cause too rapid setting and give an objectionably dark color. The crystal should have, judging from my experience, just the color of the "Crystal Mat Gold" furnished by the S. S. White Co. This gold, I have been assured, is an electrical deposit, and, no doubt, could be gently dried and passed through sieves in the unannealed state, giving just such loose crystals as I have used in my experiments. I cannot assure you that this gold may be obtained from this source. I was told by the head of the firm that if there was a sufficient demand it would be supplied. The process by which I prepared the gold used in my experiments cannot be given in this brief paper.

Since I have not been able to write enthusiastically on my original subject, I will take the liberty of throwing in some practical points, of which you may not all be cognizant.

First, I want to emphasize the importance of using a non-corrosive spatula. I feel that a plain steel spatula should never be used for mixing oxyphosphates, for if the acid of the liquid portion has been properly neutralized, or toned down with phosphates, it is damaged by its action on the steel of the instrument, forming phosphate of iron, which necessarily changes the texture of the cement mass, and often changes the color to an objectionable extent.

Another point is a scheme for giving uniformity of results in the summer and winter working of oxyphosphates and oxychlorides. Generally speaking, cements harden slowly in midwinter, and quickly in midsummer. This can be governed by having quick and slow setting materials; but, for the average practitioner, I believe that slow setting cements are more practical, hardened in cold weather by hot air or hot instruments and gutta percha. Such a preparation of gutta percha as White's "Dressing Seal"—which needs too much heat for a dressing seal in my hands—answers admirably for hardening cement fillings, as, when made quite soft, almost fluid, the heat is sufficient to quickly harden an otherwise slow setting material, and usually a film of gutta percha can be left as a protection from the fluids for a time. An oxychloride may be rapidly hardened in this way, which would set slowly otherwise.

Steel Spatulas
Injurious to
Oxyphosphate.

**Oxychloride
of Copper.**

In this connection I will speak of an oxychloride which will probably be new to all of you, since this is my first mention of it, and since the cement-making property of its base, oxide of copper, happens to be my discovery. Oxychloride of copper, I have been using in certain conditions of pulp canals, for a sufficient time to feel assured that it has all of the virtues of oxychloride of zinc, except color, in greater degree. Where its color does not preclude its use, this oxychloride can be placed in the pulp chamber of a tooth in which the pulp has recently been devitalized, and be counted on to mummify more remaining pulp tissue than any agent known to me. It stains a portion of the dentine to a blue green, but, where this is the lesser of evils, I find great satisfaction from its use. A stiff paste will set slowly till heat is applied, giving plenty of time for working into place. Generally, I use the minimum quantity of this, covering it with some other material having more definite setting qualities. For this covering, the oxyphosphate of copper answers well, because of setting readily from a semi-fluid state. The oxychloride is formed by mixing the heavy, black oxide of copper with a saturated solution of chloride of zinc. This is not the simple oxychloride of copper, which the oxide with chloride of copper forms. This may also be a useful combination, but has not, to my knowledge, been experimented with for this purpose.

A Five-Minute Study of Pyorrhea Alveolaris.

By GEO. V. I. BROWN, D.D.S., M.D., C.M., Duluth, Minn.

Read before the New Jersey State Dental Society, July, 1897.

Without discussing terms and forms, let it be understood that the subject title is intended in its broadest significance.

The symptomatology of pyorrhea aveolaris would seem to require no description among practising dentists.

Its etiology is a matter of much controversy, with many theories extant. There are those who believe it to be an expression of the uric acid diathesis, or some other constitutional cause, chiefly anæmia, tuberculosis, syphilis, Bright's disease, or the result of mechanical irritation, as by mal-occlusion, want of occlusion, hyper-occlusion, or salivary calculus and serumal deposits, the latter believed by some to be the active irritant and direct cause of pus formation, with accompanying destruction of the

membrane; by others, a result of an inflammatory condition which necessarily precedes the formation of the deposits.

The questions of heredity and transmission of infection also claim consideration.

As bearing upon all these I introduce the following table of results obtained from printed lists of questions sent out by a committee, of which I was a member, appointed by the Minnesota Dental

Society, to dentists throughout the United States, a considerable number of which were carefully filled in and returned. Of the cases reported there were proportionately as follows:

| | |
|---------------------------|----------------------|
| Anæmia | 40% |
| Catarrh | 10% |
| Gout or rheumatism | 10% |
| Tuberculosis | 20% |
| Syphilis | Uncertain |
| Bright's disease | Uncertain |
| Mal-occlusion | Uncertain |
| Males | 40% |
| Females | 60% |
| Average age | 39 yrs. |
| History of heredity | Uncertain or unknown |

Unfortunately the various forms of nephritis, known as Bright's disease, and also mal-occlusion, were, through an error, omitted from the long list of questions sent, and therefore we have no record of these two; but records of my own cases, kept for some nine or ten years, during which time I have given this subject active attention, would seem to bear out the answers received, in showing that though a large number of cases would necessarily include a large or smaller percentage of persons affected by some of the conditions enumerated, there is nothing to show that they are more than incidental, and that though the pyorrhea might be aggravated by their association, it has in no wise been proven to be the direct result of one of them.

As regards mal-occlusion, I believe fully 90 per cent. of all cases have this condition present, and if not the etiological factor, it is at least the active source of irritation without consideration of which cure is impossible; and this seems to be borne out by the investigation of Dr. Fenton B. Turck, of Chicago, who by a process of staining has been able to demonstrate under the microscope, that the condition of the surfaces of roots of teeth affected by pyorrhea is quite similar to that of long bones, notably the elbow, where the periosteum has suffered constant irritation by reason of outer violence due to the exposed location.

Constitutional Causes.

Mal-Occlusion.

Heredity. As to heredity, it is at least worthy of notice that for two or three generations this disease may be frequently traced, showing clearly that predisposition to the affection may be a family trait.

Infection. But few cases are recorded of both husband and wife being thus affected, and the indications are that the transmission from one individual to another by infection is of rare occurrence, unless indeed the danger of imperfectly sterilized dental instruments be considered.

Treatment. Treatment in the order of importance I would place as follows:

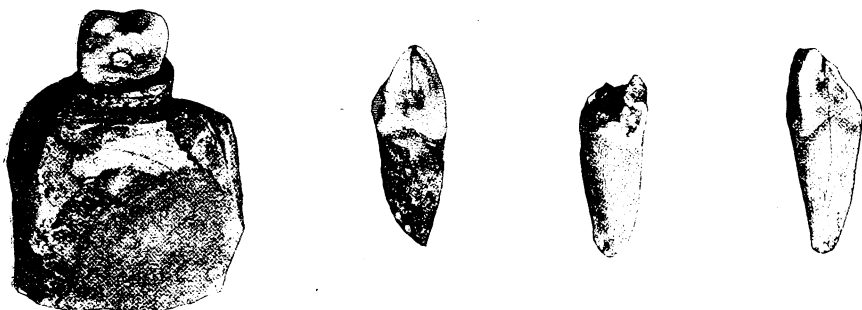
1. Correction of occlusion where necessary to relieve too great stress upon closure of the jaws by reason of elongation of affected teeth.

2. Removal of deposits.

3. Immobilization.

4. Application of remedies.

In regard to number one; its necessity is obvious to every one who will take care to observe how very commonly teeth with roots affected



by this disease are elongated sufficiently to strike prior to the other teeth in closing the jaws, thus being subjected to constant irritation. Yet in the light of a radical necessity methods of treatment commonly outlined do not lay sufficient stress upon the importance of correcting this difficulty.

Removal of deposits completely from the surfaces of the affected roots is unhesitatingly and doubtless too generally affirmed by those who discuss this subject.

The accompanying is a photograph of cases operated upon at the clinic of the Chicago Dental Society, in which the roots of teeth that had been affected by pyorrhea were enclosed in a casing or rubber band, which gave a flexible imitation of the gum tissue encased in plaster to

give the unyielding bony structures surrounding in the mouth, so prepared that the clearly defined pockets could be outlined with an instrument, but not visible to the naked eye.

The operators whose names were reported at the time are of unquestioned ability.

The results show that either the deposits were not removed perfectly, or where they were, every bit of the membrane was also removed, as can be readily seen.

Our conclusions are, therefore, that either we do not always get all of these deposits away with our instruments, or, if we do, in many cases we also remove the periostium upon which the vitality of the root depends, and a conservative rational treatment would necessarily be to follow the treatment with instruments by an application of some drug which would tend to soften and dissolve such small portions of the deposit as would seem to be beyond the reach of instruments, or the difficulty in removing might endanger too great destruction of the periodontal membrane.

Lactic acid has, I think, given the best results in my practice, though iodine, diluted sulphuric acid and other remedies have their advocates; but for my own part, every day finds me less inclined to depend primarily upon the use of drugs, and more certain of good results by removal of excitant causes. It will be found, however, that packing the pockets with shavings of soap, allowing them to dissolve, and swabbing out with cotton wrapped upon a broach will facilitate the removal of deposits by instruments, and also render the action of any drugs that may be applied more effective.

For firmly securing loose teeth there are
Fixation. methods without number, and it is only necessary to suggest that care should be taken to hold them firmly against upward and downward movements in the sockets, as well as backward and forward, or lateral motion, a matter frequently overlooked by many operators.

The prognosis may be summed up by saying
Prognosis. "Eternal vigilance is the price of liberty," for only by constant care, including the daily use of an antiseptic mouth wash, together with supervision at intervals of a few months in order to abort tendency to recur, can recurrence be avoided in cases where the disease has progressed sufficiently to cause a considerable loss of surrounding tissue.

It is useless to talk of a case as being cured. It may or may not be, but the exposure consequent upon loss of protection from gum, membrane and alveolar process necessarily renders recurrence likely if

neglected, and what is the difference if we say the case was entirely cured and we have a new affection in the same place, or say we have it sufficiently under control to prevent an outbreak by care and disinfection of the oral secretions, for we know that in this manner teeth formerly considered hopeless can have their usefulness prolonged for many years.

The most satisfactory mouth wash for this purpose of any that I have used is a preparation called **Mouth Wash.** Thycolal, in which saccharin, a powerful germicide, is combined with other agreeable antiseptics. Its action is rapid and powerful; it has no escharotic tissue destroying properties and is so agreeably flavored that patients willingly use it constantly. Perhaps the greatest advantage that the study of pyorrhea has brought about is the ability to diagnose at an early stage, for in thus anticipating the trouble lies the possibility of our greatest future usefulness.

Volasem, an Antidote to Cocaine.

By G. LENOX CURTIS, M.D., New York.

Read before the New Jersey State Dental Society, July, 1897.

I was one of the first to employ cocaine as a local anæsthetic, and the first, I believe, in oral use. (See *Independent Practitioner*, 1885.)

I have had a varied experience with it. The cases of cocaine poisoning I have had to treat are numerous, and many an unhappy hour have I spent in restoring my patients. Continually searching for a drug that would antidote it, I have finally found one in volasem. For over two years I have in all cases used this drug, giving it immediately before the administration of cocaine, in doses of one to two drops in a little water, and it is more rare for me to see an untoward symptom of the toxic effect of cocaine, than it was not to see it in previous practice. I used it then as I do now, by application and by hypodermic injections, but was very guarded as to the quantity used. Now, I use it unhesitatingly for any and all my patients, and in unlimited quantity to produce the desired result, in strength of four per cent. to a saturated solution. I feel that I can most heartily recommend this antidote to you. In case your druggist cannot supply it, it can be procured from Kellogg & Co., Fifty-eighth street and Sixth avenue, New York City.

I consider cocaine a dangerous drug in the hands of the unskilled without a reliable antidote, and even then, as with all other drugs, he should have a knowledge of how to meet conditions as they arise. The poisonous symptoms of this drug are variable. While most patients are affected alike, many develop odd symptoms. Meet the symptoms as they arise and endeavor to keep the patient in a normal condition. Cardiac and respiratory stimulants are the most necessary. I chiefly use the following hypodermatically: Tinct. Digitalis gtt 5—10. Spts. Frumenti $\frac{3}{4}$ ss to $\frac{3}{4}$ $\frac{11}{16}$. Strychnia Sulp. grs. 1-60 to 1-30.

Where it is necessary to use these, do not depend upon them alone, but loosen the clothing of your patient, wrap warmly, apply hot water bottles, working to establish the circulation and respiration, employing the reclining or sitting posture as the case requires.

7 West Fifty-eighth street.

Electro-Deposition of Metals.

By DR. L. B. WILSON, Cumberland, Md.

Read before the New Jersey State Dental Society, July, 1897.

Having paid great attention to the subject of electro-deposition, I have met with many difficulties which careful experiment and perseverance have overcome.

A form of battery which I have found most constant and certain in its action, I will describe further on. The electricity generates in a cell, passes from the zinc to the carbon element of the battery, and from thence it proceeds along the wire issuing from the carbon, traverses the solution and returns to the cell through the wire which is attached to the zinc element, and so on. The zinc is the positive and the carbon the negative element, but the end of the wire attached to the zinc becomes the negative pole, whilst that proceeding from the carbon becomes the positive pole. The anode or positive pole is that wire which is attached to the carbon, and to this wire or pole is suspended in close contact the sheet or plate of metal which is destined to resupply the solution with the amount of metal which it loses by the deposition which takes place on the cathode or mould to be coated. The cathode or negative pole is the wire which issues from the zinc, and it is this wire or pole which receives the deposit in the bath.

The battery which I recommend consists of a stone jar holding about one gallon or more. Fill this jar with hot distilled water, add to this two ounces of bicromate of potash, one ounce of bi-sulphate of mercury and two ounces of sulphuric acid. The bi-sulphate of mercury will keep the zinc well amalgamated and prevent local action. The carbon is placed in this solution and the zinc only when in use.

Preparation of Moulds. Take a plaster impression (in case the tooth or teeth have cavities before taking impression, fill and contour the cavities with wax), dry plaster impression; then pour in the following fusible metal: one-half lead and one-half tin. Just before it sets, stick a good sized copper wire in molten metal, remove mould, and in all parts on which you do not desire the deposition to take place.

1. For copper solution, with your wax spatula, cover the surface with melted wax.

2. For gold solution, cover all parts on which you do not want the deposit to take place, either with gutta percha or rubber, dissolved in chloroform; the cyanide of potassium in the gold solution will dissolve wax.

Electro-Deposition of Gold. The solution of gold should be generally worked hot. I have observed that a bath containing five or six dwts. of gold to the quart of water, and the necessary proportion of cyanide, and worked with the battery above described, has required a much larger surface of anode to be exposed, to a given surface of negative electrode, than would be required to plate in a solution containing one and one-half dwts. to the quart of solution, hence I infer that the latter solution is the better conductor of the two.

Gold Crown Made by Plating. The fusible metal crown or bridge to be plated must be clean, attached to the zinc pole of the battery and immersed in the solution, which should be kept hot while the deposition is going on. It is of the greatest importance to let the anode nearly come in contact with the solution in starting. The work should be kept in the solution until it receives the proper thickness of deposit, which will be aided by occasionally removing the work, and after cleaning and scratchbrushing, reimmersing it. It is also necessary in order to get a bright deposit, to keep the work moving in the solution.

The solution is easily made by connecting the battery to two gold plates and suspending them in a strong solution of cyanide of potassium until the one attached to the zinc plate of the battery receives a deposit. This can then be taken out and the solution is ready for use; the other

remaining in, is gradually dissolved and keeps uniform the amount of gold in solution. When the deposit is as thick as desired, the crown is removed then with a pair of pliers and held over a Bunsen burner. The fusible metal will melt and run out, leaving a seamless crown, bridge or plate that will fit and come nearer perfection than by any method I have seen.

Tin Foil.

By H. L. AMBLER, D.D.S., M.D.

Read before the New Jersey State Dental Society, July, 1897.

Tin foil should always be handled with clean pliers, and never with the fingers, and only enough should be prepared for each case, keeping the remainder in the book placed in the envelope in which it is sold, otherwise some extraneous matter collects upon it; when exposed to the air for a great length of time it will oxidize slightly.

In using this metal for filling we completely protect the underlying tooth structure, and if we comprehend the material and how to manipulate it, we will surely be rewarded by success in saving carious teeth.

The extra tough foil which can now be obtained, is chemically pure, and in the presence of perfect dryness, we can take it and begin at the base of *any* cavity, and with hand or mallet force produce a filling which will be one compact mass, so that it can be cut or filed without separating into layers. On account of its pliability it is easily adapted to the walls and margins, and a perfect fit is made, thus destroying capillary action and preventing further decay. Of all the metals used for filling, it is the best tooth preserver, and most compatible with tooth substance, and the facility with which a saving filling can be made, largely commends it. Gold in contact with immature dentine, by reason of great thermal change, may prevent complete calcification; also when dentine contains an excess of organic matter, as young teeth do, we believe that when caries begin the process is increased by thermal changes, which induce galvanic currents, attended by chemical action.

In such cases, if a metal is used, tin is good on account of its low conductivity, and because it does not change its shape after having been packed into a cavity, for contraction and expansion, are detrimental to any filling material. Under tin, teeth are calcified and saved by the deposit of lime salts from the contents of the dental tubuli; we term this progressive calcification.

The oxygen in the saliva helps blackens the tin, and the metallic oxide permeates the dentine more or less, acting as an antiseptic and a protection, because it is insoluble in the oral fluids. When there is a battery formed in the mouth containing tin fillings and gold fillings, and the fluids of the mouth are the exciting media, tin will be the positive element and gold the negative element; thus when they form the voltaic pair, the tin becomes oxidized and the current practically ceases. When tin fillings have been removed we have often found that the dentine was somewhat discolored, and greatly solidified as compared with its former condition, and we believe that this calcification or solidification is more frequent under tin than gold, which is partly due to its being such a poor conductor of heat. We have also seen cases where the pulps have partly calcified under tin fillings, and it has been known for many years that tin would be tolerated near the pulp without causing any trouble, and we feel sure that one reason is on account of its low conductivity.

Gold is nearly four times as good a conductor of heat as tin, and more than six times as good a conductor of electricity.

The Dentist's Eyesight.

By CHARLES A. BRACKETT, D.M.D., Newport, R. I.

Read before the New Jersey State Dental Society, July, 1897.

The few suggestions which are expressed in this paper are made entirely from the lay standpoint. Of the eye and of conditions influencing the eye's functioning I have no professional knowledge; and I have not had the opportunity to have the paper reviewed in advance by one professionally conversant with the subject.

Of the supreme importance of good eyesight to all who follow any occupation, even though it be but the pursuit of happiness, little need be said. To all who work under conditions of such infinite variety and complexity as does the dentist, and requiring, as he does, to accomplish his work with the utmost nicety, accuracy and completeness, the loss of good eyesight, or, certainly, the loss of the ability to command good vision with artificial aids, is equivalent to total disability in the accustomed field.

You will note that perhaps few of the ideas in this paper are particularly new, and that not nearly all of them are original with the writer; but some of them came to me as convictions years ago, before I knew that wiser men than myself had recognized the same facts, and before I

had had the opportunity to verify them by so many years of experience and observation as I have now had.

In my early days as a student in a dental school I noted one or two of my fellow students habitually operating with the aid of magnifying mouth mirrors. It impressed me at the time as an undesirable thing for a young man, say from eighteen to twenty-two years of age, and gifted with naturally good eyes, to do. I said: "If one in the perfection of youthful strength and vigor accustoms himself thus to lean upon a crutch, how shall he find in later years the greater and still greater support which lessening powers shall demand?" It seemed to me that the time of one's youth, one's days of special studentship and cultivation of the mind, should also be a time of the cultivation and education of all one's worthy physical powers, and especially those upon which the most arduous demands are to be made in the pursuit of the future calling. One of our professors in operative dentistry, Dr. L. D. Shepard, used to talk to us much about the cultivation of the fingers, and of the hands, and of the least dextrous hand. He bade us see in complicated operations how many different instruments we could make the left hand hold to aid in the work, and urged us to strive to become as ambidextrous as possible. Later it was my privilege to hear Sir John Tomes discourse in London on the primary importance for the dental student of education of the fingers. The surpassing advantages of this kind of cultivation are shown not alone in the dentist's calling, but in the surgeon's, the musical instrument player's, the artist's and the artisan's through all the multifarious manifestations of manual and digital dexterity. We all have a lively consciousness of what this kind of cultivation means.

If the nerves and muscles governing the work of the hands may be so cultivated, given such quickness and nicety, such deftness and delicacy, what more natural and logical than that the organs of special sense, including the eye, may be similarly cultivated, so that their functioning shall be correspondingly specially skilled and perfect. We know that this is so. The ear, utterly untrained, has little capacity to distinguish differences between somewhat similar sounds; the finely educated ear of the skilled musician enables him to declare through hearing alone which single key of a seven octave piano has been touched.

**Cultivation of
Eyesight.**

At the risk of seeming egotistical, I come back to some personal experiences. In my early years as a dentist I had a partial appreciation of some of these truths—enough so that I sought to see my work as thoroughly as I could, and after following this course for a time I had the satisfaction of feeling that during the preparation of a cavity, for instance, I could see imperfections invisible to those unaccustomed to looking at

small things. Then I got another idea, in this way. When I had been in practice a few years I was a guest on a friend's yacht for a brief trip. Though I have reason to believe that naturally my capacity for seeing is quite as good at long range as at short range, I found that the yacht's sailing master, accustomed all his life to his occupation, could easily distinguish buoys and other comparatively small objects at a distance of miles; objects which were to me quite indistinguishable from the watery waste which surrounded them. This led me to institute some long range eye practice, which I am sure has not been without good results. All my life my eyes have been particularly hard worked, through long hours of day and half the night. I am most grateful that they have served me well, and I believe that this good and long-continued service has been much helped by the discipline of application. Having said this much, I do not feel that I can rightly conclude this paper without a few cautionary suggestions. Of course, the doctrine which I have tried to express has its best application when commenced in youth with normal eyes and continued in such moderation as shall not produce strain. Abnormal eyes should have assistance and correction, and the cultivation of normal eyes should proceed with such gradualness and reasonableness as should govern all training and development.

It is not well generally for those past middle age to take up exercise to which they have been unaccustomed, except they do so with particular care; but the natural powers may be at least wisely used and judiciously husbanded at all ages so long as they exist. I think all oculists agree that it is not wise to try to make eyes in which senile changes have commenced, do their work without artificial help. Whenever the eye has commenced to flatten or to undergo changes which make it as an optical instrument imperfect there should be provided the optician's substitutes for that which is lacking; and no false pride or disingenuousness should prevent the wearing of glasses when glasses are needed. Watchmakers, engravers, and others doing fine work, while perhaps not wearing glasses habitually, are accustomed to occasionally examine their work with a lens to judge of its perfection. Similar aids are useful for dentists, but it seems to me that they will be most helpful if they are not taken up unnecessarily early in life. The magnifying mouth mirrors and the simple lenses in the long handled frames afford all that can be desired in the way of these helps.

The functioning of the eyes is amenable to a variety of laws such as apply to other organs. They do their work less well and quickly when they are fatigued. The horizontally extended arm holding a weight soon becomes tired, and through that tire incapable of hold-

**Weak Eyes
Need Assistance.**

**Resting the
Eyes Important.**

ing even itself. The eyes may be long concentrated upon a particular small piece of work, but an occasional interruption in the continuity of any application will be most restful. The suggestion was made years ago that all workers upon small objects close at hand should rest the eyes at intervals by looking for an instant at something far away, and those who have to practice long-range vision in their work should have the corresponding benefit of respite upon something near by. Frequent and extreme variations in the amount of light are most trying to the eyes. The late Dr. Abraham Robertson, at one time of Virginia, and later of Massachusetts, attributed the complete blindness which burdened all the latter portion of his life to the many alternations between light and darkness to which his eyes were subjected by the care at night for years of an invalid wife. The ill consequences of the transition from darkness to a brilliant artificial light, and the reverse, may be in a measure guarded against by having the eyes closed and the face turned away at the instant of the change, and seeking to make it as gradually as possible. The eyes, like all the rest of the body, should not be kept at work when they are extremely fatigued. The consequences of debilitating diseases, as, for instance, grip, are also manifest in the inability of the eyes to do their work easily and properly. When there is fatigue or debility the demands made upon the eyes should be as light as possible.

The impression which this paper seeks to leave upon your minds is that, while abuse of the eyes is to be avoided, their legitimate use may be made to serve as a cultivation and to increase their capacity in both quality and quantity of work.



Oral Hygiene.

By EUGENE S. TALBOT, M.D., D.D.S.

Read before the XII. International Medical Congress at Moscow, Russia, August 18-26, 1897.

That the mouth and teeth should be kept absolutely clean and free from deposits every practitioner will admit is but an axiomatic statement. Neglect in this direction entails degeneration to the teeth and soft parts of the mouth, which, in turn, ultimately affect the general health. Many dentists, and most patients, are unmindful of the necessity of keeping the gums and mucous membrane healthy. Frequently, despite strict injunctions, the patient returns with the mouth in a most unhygienic condition. The patient has gradually lost ambition and allowed the teeth and mouth to fall far beneath the ideal of prophylaxis.

As a class, dentists are apt to congratulate themselves upon the rapid advancement made in their specialty, forgetting that bacteriologic research (a fact which physicians and dentists have suspected) shows that the mouth is the culture medium for germs which, when opportunity offers, play their part in producing many diseases to which flesh is heir.

Galippe, Black and Miller, after special microscopic study of fluids and excretions of the mouth, have shown that this organ is a very fruitful field for the propagation of bacteria. Miller (¹) says: "Within the last few years I have isolated more than one hundred different kinds of bacteria from the juices and deposits in the mouth." Physiologists and chemists have also shown that foods, especially starch and sugar, taken into the mouth, coming in contact with the saliva, chemical changes immediately take place by the result of which lactic acid is produced.

Miller has found that lactic acid is the source from which decay of the teeth results. It would be strange if, of the numerous bacteria, some under favorable environment should not produce diseases of the mouth, alimentary canal and general system.

Micro-organisms are more destructive in the mouths of persons whose vitality is below par than those who are normal. People who have been ill for any length of time soon realize that the teeth are giving way; that pus germs infect the mouth and that the soft tissues are very unhealthy. A class coming for treatment whose mouths are exceedingly prone to disease is that of the degenerate. It is almost impossible, at present, for the majority of dentists to distinguish this class from the normal, yet they exist in dental practice in large numbers. The

**Mouths of
Degenerates.**

(1) "Micro-organisms in the Human Mouth," 8 p.

mouths of this class are in an unhealthy condition; the teeth irregular and often badly decayed, gums and mucous membrane swollen with pyorrhœal oozing from gums and teeth. Frequently ulcers occur at different localities. Saliva flows in large quantities from enlarged glands.

Degeneracy is stamped upon their faces. The bones and mucous membrane of the nose are often hypertrophied. In such cases adenoid vegetation, together with other obstructing factors, prevent nose-breathing and mouth-breathing results. Necessarily many germs, otherwise absent, are taken into the mouth which afterwards infect the lungs and alimentary canal.

These types of mouths are observed in their most exaggerated forms among the imbeciles, demented and stuporous lunatics. Local treatment of such patients would be a fallacy.

I lay stress upon this class of cases because of the lack of literature on the subject and of the difficulty of impressing the patient with the importance of the care of the mouth. Such persons, even if otherwise fairly well balanced, are too unstable to master sufficiently continuous will power to carry out successfully instructions of the operator. These patients (including those who are afflicted with disease), require constitutional treatment to restore the tonicity of structure after which local treatment will prove successful. I would not, however, for one moment be thought to discourage the attempt to keep the mouth in hygienic condition, especially in cases of invalids and small children who must receive the greatest care from nurse or parent.

As absence of general tonicity will prevent a local restoration to health, in like manner will lack of local cleanliness cause systemic disturbances. Beside illness, worry, anxiety, trouble will produce malnutrition and tissue degeneration. It is not necessary to discuss the various bacteria and their action upon the fluids and tissues of the mouth since this has been thoroughly brought before the profession by Miller⁽²⁾. To treat the subject of this paper in a proper manner, it is only necessary to speak of a few forms of bacteria which, if destroyed, the other forms will succumb.

Degeneration of Oral Tissues.

Two of the most marked forms of degeneration of tissue as the result of uncleanness are tooth decay and gum inflammation, resulting in pyorrhœa. Pasteur has remarked, "that whenever and wherever there is decomposition of organic matter—whether it be the case of an herb or an oak, of a worm or whale,—the work is exclusively done by infinitely small organisms." Therefore I commend the two following

(2) *Dental Cosmos*, Sept., 1891.

propositions: If the mouth and teeth were kept absolutely clean so that chemical changes could not take place, the teeth would certainly never decay, no matter how imperfectly the enamel may develop. If the gums be stimulated in a proper manner, and kept in a healthy condition, they are decidedly less liable to become infected with pyorrhœa.

Bearing these two propositions in mind and striving to attain the results, the mouth will become comparatively healthy. How then shall we accomplish the desired object?

Use of proper toothbrush, mouth wash and a
Proper Tooth-Brush knowledge of their use is the indication. The
Described. ordinary toothbrush falls far short of what is required for proper care of the teeth. Most have soft bristles or those that become soft for the reason that they are sometimes kept in a close vessel or used so often that they are not allowed to dry. A soft bristle brush should never be used, only a medium or hard one. The size of the brush is also to be taken into consideration. Most of them are too large, and, on that account, it is difficult to get beyond the molars. The shape of the brush is also to be borne in mind. Dr. M. L. Rhein, of New York, has taught the evolution of the toothbrush. The curved handle and small end which contain the bristles are certainly a great improvement over straight handles or those bent in the opposite direction from the bristles. The tuft and concavity of the bristles (so far as they go) are an improvement over bristles which are parallel with the handle. This allows the posterior portion of the molars as well as the spaces between the teeth to be reached when the brush is properly used. With the proper use of such a brush three times a day and floss silk twice a day, any person of ordinary intelligence after being instructed can keep the teeth clean. There can be no question but that, if the gums be well stimulated and an antiseptic wash used, pyorrhœa will never appear. Pyorrhœa is due either to simple inflammation or chronic inflammation of the gums. No matter whether the cause be local or constitutional. Both simple and chronic inflammation may be reduced first by blood letting to remove the congestion, and, second, by stimulation in all their parts. This, however, cannot be accomplished with the toothbrushes now in use. The bristles are not only too soft, but they are so close together that when the brush is applied to the tooth those bristles which come in contact with the teeth prevent the others from reaching the gums. I have given this subject considerable study, the result of which is the brush which for the past two years I have had my patients use and with the greatest satisfaction. It is made similar to the Prophylactic, only smaller in every way. Spaces are left at every two rows so that the teeth will pass in between them and the bristles reach the gums. Between the

tuft upon the end and the body of the brush quite a space is left so that the front teeth, upper and lower, will go between and the tuft reach the gums above, below and posterior to the incisor teeth. Inflammation of the gums starts most frequently at these localities first and is most always in its most severe form, since with the ordinary toothbrush it is more difficult to reach these parts.

**An Effective
Mouth Wash.**

It is not an easy matter to find a mouth wash that will destroy bacteria and at the same time not become injurious to the mucous membrane. Miller⁽³⁾, after repeated experiments, says "an examination of the above results will soon convince us that there are very few substances at present in the dental materia medica which are available for disinfecting the human mouth." After experimenting with twenty-six different drugs, it was found that with one exception not one of these drugs would destroy bacteria in less than five minutes, most of them requiring over eight minutes. Out of all the drugs which are used daily, iodine trichloride destroyed bacteria in one and one-fourth minutes; saccharine in three-fourths to one minute; benzoic acid two to two and one-half minutes; salicylic acid in three-fourths to one minute. Of these, benzoic acid seems to be the only drug from which a suitable mouth wash can be made. Listerine and thymol have been favorite mouth washes in America, but lately a new preparation has become very popular, viz., Borolyptol. It is composed of 5 per cent. aceto-boro-glyceride, 0.2 per cent. formaldehyde, in combination with the antiseptic constituents of *pinus pumilio*, *eucalyptus*, *myrrh*, *storax*, *benzoin*. Experiments made by able chemists have shown that it is fully as strong and will destroy bacteria as readily as 1-1000 mercury bichloride. These experiments are also confirmed by Prof. Adolph Gehrman and are of so much interest that I here present his report.

I have used Borolyptol in my practice for the past year with success, especially in cases of pyorrhœa alveolaris, without injury to the mucous membrane.

Miller says "that trichloride of iodine is decidedly superior to the bichloride; it is, furthermore, far less disagreeable than the latter, in fact not at all disagreeable; it has, however, most unfortunately, an acid reaction and is, therefore, not suitable for daily use as a mouth wash." Nevertheless in cases of pyorrhœa alveolaris after the deposits are removed, I know of nothing better than the officinal preparation of iodine, saturating the gums and pockets throughout three times a week. It acts not only as an astringent, but it prevents putrefactive changes, decomposes sulphurated and phosphorated compounds; it therefore acts as a powerful

(3) *Dental Cosmos*, Nov., 1891.

Borolyptol and Bichloride Test.—Report of Microscopist.

| Cultures made at times. | At once. | 2 minutes. | 4 minutes. | 10 minutes. | 20 minutes. | 40 minutes. | 1 hour. | 2 hours. | 4 hours. | Remarks. |
|----------------------------|---|------------|------------|-------------|-------------|-------------|---------|----------|----------|----------------------------|
| | | | | | | | | | | Bacteria applied. |
| <i>Borolyptol.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>Staphylococcus pyo-</i> |
| <i>Bichloride.</i> | ++ | + | — | — | — | .. | .. | .. | .. | <i>genes citreus.</i> |
| <i>Borolyptol.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>Bacillus pyocyaneus</i> |
| <i>Bichloride.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>green pus.</i> |
| <i>Borolyptol.</i> | ++ | + | — | — | — | .. | .. | .. | .. | <i>Staphylococcus pyo-</i> |
| <i>Bichloride.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>genes aureus.</i> |
| <i>Borolyptol.</i> | ++ | — | — | — | — | .. | .. | .. | .. | <i>Bacillus typhi ab-</i> |
| <i>Bichloride.</i> | ++ | — | — | — | — | .. | .. | .. | .. | <i>domnalis typhoid</i> |
| <i>Borolyptol.</i> | ++ | + | — | — | — | .. | .. | .. | .. | <i>Streptococcus pyo-</i> |
| <i>Bichloride.</i> | ++ | + | — | — | — | .. | .. | .. | .. | <i>genes erysipelas.</i> |
| <i>Borolyptol.</i> | ++ | — | — | — | — | .. | .. | .. | .. | <i>Bacillus diphthe-</i> |
| <i>Bichloride.</i> | ++ | — | — | — | — | .. | .. | .. | .. | <i>ria.</i> |
| <i>Borolyptol.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>Sarcina auranti-</i> |
| <i>Bichloride.</i> | ++ | + | + | + | — | .. | .. | .. | .. | <i>aca.</i> |
| <i>Borolyptol.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>Bacillus anthracis,</i> |
| <i>Bichloride.</i> | ++ | + | + | — | — | .. | .. | .. | .. | <i>no spores.</i> |
| <i>Borolyptol.</i> | ++ | ++ | ++ | + | + | + | + | + | — | <i>Bacillus anthracis,</i> |
| <i>Bichloride.</i> | ++ | ++ | ++ | + | + | + | + | + | — | <i>spores.</i> |
| <i>Borolyptol</i> | full strength added to bouillon cultures. | | | | | | | | | |
| <i>Bichloride</i> | 1.1000 in water added to bouillon cultures. AD. GEHRMANN, M. D. | | | | | | | | | |

The experiments were conducted by adding one-half cubic centimeter of bouillon culture to eight or ten cubic centimeters of Borolyptol or Mercuric Chloride. From these mixtures drops were removed with the platinum loop at intervals of one, two, four, ten, twenty minutes, etc. These drops were transferred to sterile bouillon and incubated for three days with the result indicated. The comparison shows that Borolyptol, when undiluted, has an antiseptic value about equal to Mercuric Chloride, 1.1000.

Very truly yours,

ADOLPH GEHRMANN, M.D.,

Prof. of Bacteriology College of Physicians and Surgeons,
Bacteriologist to Columbus Medical Laboratory.

+ = Living.
— = Dead.

astringent and will destroy most forms of bacteria. These two drugs and a faithful stimulation with the toothbrush is all that is necessary to keep the mouth in a healthy condition. By this method the worst forms of diseased gums and inflamed mucous membrane can be successfully treated.

In regard to tooth powder, I have but little to say as every practitioner has his own particular formula. I feel confident, however, that many dentists make a mistake in recommending nothing but soft substances. One writer upon the subject of Oral Hygiene says in speaking of a tooth powder, "It should contain a scouring or polishing agent of the nature of a minutely-divided powder such as precipitated chalk." I would like to ask how much scouring and polishing can be done with chalk? There is no objection to using the chalk for bulk, but to scour and polish the teeth I prescribe equal parts precipitated chalk and powdered cuttlefish, carmine to color, orris root and fine sugar⁽⁴⁾ to sweeten. This mixture, when rubbed up and put through a No. 60 sieve, makes an excellent powder which may be used two or three times a week.

Prostration After Dental Operations.

By DR. R. C. BREWSTER, Brooklyn, N. Y.

Read before the Second District Dental Society at Newburgh, October 11, 1897.

There is a difficulty which sometimes confronts me in my practice that I wish to present to you to see if my course in the past meets your approval. I will narrate three cases in detail that you may the better understand the situation.

| | |
|--|--|
| Prostration After Tooth Extraction. | Mrs. P. B. came to my office one afternoon, suffering intensely from pain in the lower right second molar. On examination I found that it contained a large amalgam filling on the anterior approximal surface, which had been put in twelve years before; |
|--|--|

the pulp having been removed at that time, and no disturbance felt until this occasion. The tissues on the buccal surface were red and indurated, the gum receded from the neck of the tooth, and the tooth itself was extremely painful on percussion. There was a remnant of the wisdom tooth around which there was hypertrophied tissue; the other teeth on that side of the mouth were in good condition. It had been painful for about two hours, and from the severity of the onset and the surrounding

⁽⁴⁾ Saccharine would be better.—Editor.

conditions, I advised extraction. This, however, did not meet the approval of the patient. I then suggested applying a leech to relieve the engorged conditions. To this she agreed and three or four drachms of blood were removed affording considerable relief and she went to a friend's house in the neighborhood—her home being in the suburbs of the city. In the morning she returned after a sleepless night, but not with much pain, and wanted another leech applied.

The first leech had aborted the onset of the pericementitis, but the tissue around the wisdom tooth was still engorged, and I consented to apply the second leech, hoping to get the tube farther back, which I did, and again with good success, and relief. She retired to an adjoining room, and as she showed some signs of prostration, I gave her a small dose of spirits frumenti. She rested on a sofa for an hour and then went to her friend's, but late in the afternoon she returned saying she wanted the tooth extracted; that notwithstanding it did not ache much, still she felt bad, and as her husband had come for her she thought it best to have the tooth extracted before going home.

This was what I had originally advised, and I was not certain that it was not still the better course to pursue. The bloodletting had done good work, and with rest, quiet, nutrition and sleep, the tooth might probably be comfortable in a few days, yet it seemed a short way out of the difficulty in view of the fact that when once at home it would be difficult to get relief in case I were mistaken in my prognosis. Added to this was the fact that she now wanted it out. I therefore gave her gas and extracted it, the operation being entirely successful. A copious flow of blood followed, and I explained to both her and her husband with emphasis, the necessity of keeping the socket free from clot. She seemed a little tired after the operation, so I gave her an ounce of spirits frumenti, which fortified her against the journey home, and the inclement weather.

From the time when she first came to me with a toothache until I extracted the tooth, was twenty-six hours, and during that time she neither ate nor slept much, and she seemed in need of some supporting treatment in the line of food or medicine, or both. I offered her nutrition in the shape of coffee, tea, milk or any kind of food that she might suggest, and medicine, aromatic spirits of ammonia, but she would take nothing but a little spirits frumenti. After she arrived home the household danced attendance to a hysterical patient. They wanted to send for me, but the storm and distance prevented. If they had, I should not have gone but would have sent word that she no longer needed a dentist, but a physician.

After two days the family physician was called, and he found a temperature of one hundred and four degrees and extensive cellulitis in the

right inferior maxillary region, and she did not leave the bed for three weeks.

In conversation with her physician recently as to her condition when he first saw her, his treatment and ultimate recovery, he said he had been treating her for some months for uterine trouble, and he attributed her condition largely to the weakness of that organ, as the treatment for it relieved all the other conditions. I asked him if he had syringed the socket from which the tooth had been extracted, and he said he did not remember, he was so much more interested in the gynecological treatment. To a dentist this would have been of primary importance, no matter what the other conditions might have been, especially in a patient with a temperature of one hundred and four degrees and great cellulitis, the swelling extending down in the neck. It is new to me to treat an ulcerated socket from which a tooth has been extracted, gynecologically, instead of by a local surgical method.

The gentleman is one of the foremost physicians in Brooklyn, a general practitioner and not a specialist in gynecology. Now what more in the line of my professional duty should I have done for her? Should I have prescribed for her, and if so, what? I did prescribe that she should go home, eat some food, go to bed, have quiet, rest and sleep. She followed these instructions so far as she could, but it did not suffice. Sedatives or narcotics were plainly indicated, but I disclaim any obligation to have written a prescription for medicines of this kind?

**Simulated
Toothache from
Hysteria.**

Case II.—Mrs. D., aged thirty, married, no children, has been a patient of mine during the past twelve years, and has always been a delicate, weak and nervous person. About ten years ago I devitalized the pulp and filled the lower left first molar, which until a month ago, had been perfectly comfortable. She came to my office early in the morning and said she had passed a sleepless night from severe pain in that tooth. I examined it and could find no cause for pain, as the tooth did not respond to percussion, nor was there any swelling, and I was wholly unable to account for the extreme constitutional depression. I supplied her with a box of toothache plasters, and after telling her how to use them she went home.

In the afternoon she returned apparently in great pain and wanted to have the tooth extracted, but this I refused to do as I could find nothing wrong about it. She then wanted a leech applied, which I did after some hesitation. This seemed to relieve her for the time, but she relapsed into a still deeper state of depression. I then concluded that my patient was suffering from a severe attack of hysteria. I told her to go home, go to bed and send for the physician. She did not wish to do this, but

asked me to prescribe "something to quiet her nerves," which I refused to do, and at last she went home, took to the lounge and sent for her physician. For three days he was unable to do anything that would give her relief; on the fourth day she sent for me and I met her physician at her house. She was still on her lounge where she had been since leaving my office, and had eaten almost nothing. I examined the tooth and it seemed entirely well, although she still complained of pain and wanted it extracted, and I still refused to do so, considering that after so many days there being no swelling and no response to percussion, I was perfectly secure in my position. As she was no worse, but in some respects a little better, my prognosis was that a complete recovery would soon terminate the trouble, which proved to be correct, for in ten days she was out as well as ever.

In consultation with this physician in regard to her, he said it was a case of hysteria pure and simple, and that he cured her mainly by hypnotism, although he used some medicines, viz., trivaleriate pills and thebaina. He also told her to hold ice by the side of the tooth, which gave her relief, and this would seem to prove that there was some pericementitis that I had been unable to discover.

Trivaleriate pills are composed of iron, quinine and valerian, each one grain, and are extensively used in nervous disorders. Thebaina is an alkaloid of opium and much the same as codeine, the dose being one-half grain to ten grains. He gave her one dose, one-sixth of a grain, and this made her wild and frantic. Suppose he had given her one-sixth grain of sulph. morphia, which is the orthodox dose as laid down in the books, and what most of physicians or dentists would have given, what would have been the result? Perhaps a coroner's inquest.

**Prostration
Caused by
Pericementitis.**

Case III.—Miss H., aged twenty-three, a perfect type of a healthy woman, came to me recently with a severe pain in the left inferior first molar, which had an amalgam filling on the anterior ap-proximal and crown surface that had been patched three days before, a small portion only of the original filling being left.

She said the first piece of amalgam that was inserted and pressed to position produced pain, as if pressing on the pulp, but the filling was completed with the assurance that it would soon stop; it did not, however, but had been slowly, steadily increasing up to the time of coming to my office, when it was very intense. I removed the filling and, of course, found an exposure; immediate relief followed and I dressed it with an antiseptic on a loose piece of cotton, instructing her to change it after each meal and return after two days when I could give her more time and devitalize the pulp.

I called her attention to the tooth next in front, i. e., the second bicuspid which had a large amalgam filling that had the appearance of having been recently inserted, being very bright, and said I thought that tooth also needed to have the filling removed, as it evidently had a dead and suppurating pulp, judging from the color, and the looseness of the tooth, but she said that tooth had never given her any pain, and as she was perfectly comfortable went away, enchanted because I had given her so great relief.

But she returned in four hours with quite as much pain as before, insisting that the molar tooth from which I had removed the filling was the seat of the difficulty. I adjusted a rubber napkin and punctured the pulp, which produced a copious hemorrhage, after which I applied a saturated solution of cocaine for an hour with no success. I then insisted on opening the bicuspid, but she was obdurate, so I removed the rubber napkin, placed a loose piece of cotton in the cavity in the molar, and she left the chair and walked up and down the room a perfect picture of despair.

I told her I could do nothing more and I thought she now required the attendance of a physician, her brother-in-law, in whose house she lived, and she went home.

Four days after she returned looking as though she had been through a serious illness, and said her brother-in-law had sent her to have the bicuspid opened. I opened it and found as I had suspected, a suppurating pulp. From that moment she seemed to brighten, and before leaving the office, she seemed quite like herself. The teeth were afterward treated and filled by the customary method and are now doing good service.

I went to see her physician recently and asked him how he treated her on her return from my office. He said he gave her ten Dover's powders, which is equal to one grain of opium, and one grain of opium is equal to about one-sixth grain of sulph. morphia. He then gave her small doses of morphine until he had given one grain of morphine before the pain would cease, and at no time was she hysterical.

In reviewing the history of these three cases there are some things worthy of note.

Should Dentists

Prescribe

Internal Remedies.

First, that they were unlike in many particulars.

Second, the origin of trouble was the same.

Third, the patients were unlike physically and in temperament.

Fourth, the medical treatment was totally different.

As to the medical treatment by comparison, the first had literally no

medicine other than a very small quantity of stimulants, as she needed supporting treatment, and this was contra-indicated in the other two.

The second was cured mainly by hypnotism, and this certainly could not have been practiced on numbers one and three.

The third had an enormous dose of morphine, which was contra-indicated in the first, and would have killed the second.

Here we have an example of the necessity for different treatment of the same disease, and it is here that I claim that a dentist is unfitted to prescribe medical aid for his patient, because from his lack of education and experience, he is incompetent to judge what medicine is indicated and what is contra-indicated, and if he does prescribe and finds he has made a mistake, or has given too large a dose, he might not know the antidote, nor how to use it if he did. I think any dentist who undertakes the care of a patient under these conditions not only oversteps the bounds of his professional duty, but assumes great risk.

I think the best interest of the patient is promoted in the united efforts of the dentist and physician. There are very few physicians who are not willing to consult with a dentist who hands his patient over to him, and gets a full history of the case, as it will aid him in forming a correct diagnosis and he can then prescribe intelligently. Physicians are not hard to approach under these conditions, and it is an advantage for a dentist to be in good fellowship with physicians.

This is especially true of cases like that of Mrs. P. B. A dentist would have given more attention to the cellulitis in the inferior maxilla and would have kept the socket well syringed and allowed no clot to form, which, in my opinion, may have been the cause of the elevated temperature by the absorption of the ptomaines which is the product of decomposition. Other than this his treatment was undoubtedly correct as proved by the result, he claiming that the elevated temperature was due to the uterine conditions.

I want to relate an experience I had in giving a sedative to a patient. Most people are unwilling to narrate an unfortunate experience, but I am always willing to point out a danger line even though it be at my expense. I once had occasion to give a sedative to a patient, and knew that it was plainly indicated. I gave her five grains bromide of sodium, thinking so small a dose could do no harm. In less than two minutes I saw my patient was sinking, a cold perspiration covered her face and hands, labored breathing and an almost imperceptible pulse, and not until I had given her three good doses of whisky did the cardiac action revive. Ten years before I had given this patient forty grains of the same medicine with satisfactory results.

I simply mention this case to show the necessity for care in the

administration of drugs, and the idiosyncrasies of patients. Let him who prescribes bromides beware lest the patient has a feeble heart.

There is a tendency on the part of some dentists to prescribe some form of opium for their patients in such cases as I have narrated. I think a few remarks on opium and its preparations are here in order, and I have compiled the following from the text-books:

**Opium and
Its Alkaloids.**

The form that we have mostly to deal with is the sulphate of morphia, a snowy-white feathery crystal, an alkaloid of opium, the especial feature of which is its power to relieve pain. It can be administered by the stomach or by hypodermic subcutaneous injections; the official dose is one-sixth of a grain.

Opium is a very complex substance, and the peculiar powers of it are represented chiefly in the morphine it contains—one-sixth of a grain of morphine is about equal to one grain of opium.

Various circumstances modify the action of opium and these are chiefly age, sex, idiosyncrasy, habitual use and certain states of the system, as the presence of pain, uremia, etc. The extremes of life are relatively more susceptible to the action of opium—especially is this true in early life. Fatal opium narcosis has ensued in a nursing infant whose mother had taken a medicinal dose. A single drop of laudanum has produced lethal effects in a child under six months of age. Women are more easily affected than men, and they are more apt to be thrown into a condition of hysterical excitement than to be put to sleep.

**Physiological Effects
of Opium.**

In a short period, from a few seconds to a few minutes after an ordinary dose, one-sixth of a grain, the action of the heart becomes stronger and the arterial tension rises, and there comes a sense of heat and flushing of the face, fullness of the head, giddiness, tinnitus aurium, and frequently nausea. Vertigo may be so great to render walking uncertain or to render the upright position impossible, the conjunctiva is injected and the pupils contracted, the lips have a bluish appearance, the mouth and tongue become dry, the voice husky, and a deep seated epigastric pain is often felt.

When these physiological effects are produced, pain and spasms are relieved and an indescribable feeling of content takes possession of the mind, and it is this feeling of happiness that so often leads to the opium habit, which is worse than living death, and herein lies one of the greatest dangers of this fascinating drug.

Nausea, vomiting, headache and depression much more frequently occur in women than in men, and they are less favorable subjects. The action of opium is influenced more by idiosyncrasy than by age or sex.

There are persons so easily affected that the minutest quantity will cause uncontrollable comia, vomiting, vertigo and alarming prostration. The habitual use diminishes in a remarkable degree the susceptibility of its action, and great pain also lessens its influence.

In cases of opium poisoning, if any portion of the drug remains unabsorbed in the stomach, the most prompt emetic should be used, the sulphate of copper, the dose of which is one-eighth to one-half grain; or powdered mustard, a tablespoonful to a teacupful of warm water.

**Antidotes
for Opium.**

As regards its chemical antagonism, the alkaline carbonates, lime water, the salts of iron, lead, copper, zinc, mercury and Fowler's solution are incompatible with the preparations of opium.

If the patient is unable to swallow, the stomach pump should be used, or apomorphine injected subcutaneously, one-sixteenth grain. Cold affusion, artificial respiration when breathing flags, and faradization of the chest muscles and flagellation, although faradization is more human and efficient than flagellation.

Coffee is also an antagonist to opium, and the free use of black coffee has given good results in mild cases of opium narcosis. Caffein may be used subcutaneously in three to five grain doses, and repeated up to twenty grains.

The action of opium is antagonized by belladonna, and its alkaloid atropine, by their power to maintain the action of the heart and respiration until elimination has taken place, but there is great risk of substituting belladonna narcosis for opium narcosis. The hypodermic injection of atropine is the most efficient and satisfactory method of employing this physiological antagonist. Not more than one one-hundred and fiftieth of a grain of the sulphate should be administered at a dose, and this may be repeated every fifteen minutes (up to three doses) until dilatation of the pupil, increased action of the cardiac movements, deeper respiration, warmth and dryness of the skin and flushing of the face are produced. The use and action of these drugs, however, is so complex that the consideration of them is out of the sphere of this paper.

One of the especial antagonists of opium and one that is not found in the text-books, is the permanganate of potash. It has been extensively used in the New York hospitals, and is used in this manner: First, empty the stomach by emesis or the pump, then wash it out with clear water with a stomach pump, then pump into the stomach an aqueous solution of the permanganate, a quantity equal to twenty times the suspected dose; let it remain a few moments and pump it out again. Wash the stomach again with clear water, and repeat the operation several

times. It acts as an astringent on the mucous membrane of the stomach and prevents absorption. This method is spoken of very highly.

With the decline of morphine narcosis, a majority of patients experience headache, confusion of mind, anorexia, nausea and constipation.

In lethal doses profound narcotism quickly ensues, pulse becomes slow and feeble, or rapid and feeble, respiration also becomes slow and shallow; the skin cold and sweating, the face pale, cyanosed and ghastly, conjunctiva deeply injected, pupils minutely contracted, and reflex movement entirely abolished. Respiration ceases before the action of the heart, as a rule. Death ensues from paralysis of the heart. One-third of a grain of morphine has proven fatal to an adult.

That opium and its preparations are among the most useful medicines in the pharmacopœia there can be no doubt, and its ability to relieve makes it one of the most desirable medicines we have, but its uncertain and treacherous results makes it also one of the most dangerous drugs we can handle. In the hands of careful and experienced physicians its sphere of usefulness is unbounded, and it is a boon to suffering humanity, but in the hands of one who is uneducated, in its complications and treacherous results it has no equal.

I have endeavored to emphasize the dangerous side of it, that he who uses it will do so with the knowledge of the dangers that may come upon him. Do the dental colleges instruct sufficiently in this line?





New Jersey State Dental Society. — Twenty-Seventh Annual Meeting.

The morning session on July 23 was devoted to the reception of the reports of the various committees. On recommendation of the Membership Committee, the following gentlemen were elected:

Dr. Wm. P. Shoemaker, of Atlantic City; Dr. James S. Voeghtlin, of Newark; Dr. Chas. W. Raith, of Atlantic City; Dr. James North, of Atlantic City; Dr. W. B. Rice, of New Brunswick; Dr. E. B. Cottrell, of Princeton; J. O. Noling, East Orange.

The Membership Committee reported the resignation of Drs. Henry Pfeiffer, of Newark, and W. L. Linstead, of New Brunswick. These resignations were accepted.

Report of Legislative Committee.

Mr. President and Gentlemen: In presenting our subject, House Bill No. 70, we would first call your attention to the important changes made in the present law, namely:

Section I.—Licentiates. This section makes no change in the present law, but does away with a large amount of useless matter, and declares all dentists registered under the law of 1890, in legal practice.

Section II.—State Board of Registration and Examination in Dentistry. This section continues the State Dental Board as provided for in the present law.

Section III.—Examinations. Changes of the law of 1890 by requiring that all applicants shall be twenty-one years of age and of good moral character, and graduates of a recognized dental college, or else graduates of a medical college who have pursued thereafter one year's course of special study in dentistry in a registered dental school.

Examination Fees. Changes the law of 1890 by allowing the return of the fee where from sickness, or other good cause, the applicant was prevented from attending the examination.

Expenses of Board. No change, except in providing for a salary of \$100 to the Secretary of the Board.

Licenses. The law of 1890 is considerably broadened in this clause by providing for an interchange of licenses with other States, where the requirements and standard of education are equal, so that a practitioner who has once passed a State Board, and has been in reputable practice for five years, can be licensed without re-examination.

This change is in line with the movement to bring about a uniformity of laws in different States, New York having, last year, adopted a bill similar to the one under consideration, and the Legislature of several other States having bills of a similar character now before them.

Revocation of Licenses. The section provides for revocation of license of any person convicted of felony.

Section IV.—Construction of this act.

This section provides for the examination of students who register as such under the law of 1890 with the intention of appearing for examination at the expiration of their term of study.

By the insertion of this clause no possible injustice can be done any one intending to take advantage of the five years' clause in the present law.

Section V.—Penalties.

(a) Reduces the fine for illegal practice from \$300 (law of 1890) to \$50 for first offense and \$100 for subsequent offense. This fine is more likely to be collected, and makes the law easier of enforcement.

(b) Is new, and is to prevent the use of diplomas in an illegal way.

(c) Provides against false statements.

(d) Same as law of 1890.

Section VI.—Repealer.

We are, unfortunately, aware that the bill was defeated, and your committee desire to make a full explanation of its procedure in order to clear itself from any imputation of carelessness or neglect.

The bill was introduced into the Assembly January 25, and was referred to the Judiciary Committee, where it was lost for nearly a month; we finally ascertained that the delay was occasioned by legislative courtesy, a Senator who objected to the bill neglecting to make such objection to the committee. Your committee at last obtained a hearing and made a strong argument in favor of the bill, which was apparently favorably received, and still the bill was not reported. After continued delay, we succeeded in removing the objection of the Senator (which was a personal one), and the bill passed the Assembly on March 30 with

but eight negative votes. We had every assurance that the bill would pass the Senate, but it was killed there for political reasons independent of the profession, and a lack of personal effort on the part of the dentists of the State. I make this statement upon the following grounds: While the bill was in the hands of the Judiciary Committee, being at a loss to ascertain the reason of the delay, we decided to poll the State, sending out 467 return postal cards, receiving replies from 147 (only 13 of which were in the negative,) thus proving that comparatively few of the profession paid any attention to the matter.

From a number of letters received bearing upon the subject, we were led to believe that an erroneous impression has been formed in regard to the motive of this bill, a number of persons inferring that its introduction was intended to prohibit dentists from coming into the State to practice, which is not the intention of dental legislation; its object being only the elevation of the standard of the profession and the protection of the public.

The Examining Board was not organized to restrict as to number practicing in the State, but rather to prevent charlatanism, its requirements are of a high order, its work carefully performed, and the public can rely upon such candidates as have passed, as being capable practitioners.

We have gone minutely into this subject that the conditions may be thoroughly understood, as the committee propose introducing this bill at the next regular convening of the State Legislature.

Report of Committee on Materia Medica.

Submitted by H. S. SUTPHEN, D.D.S., Newark, N. J.

Your committee cannot report without again
Ammonol. calling attention to ammonol. Its use for eighteen months has, but increased our confidence in it.

For congestion of the pulps; for soreness in a pulpless tooth, caused either by fatigue or a lack of tone in the system or by incipient inflammation; and for so-called neuralgia, it is inestimable in its benefits alike to operator and patient.

Its dosage is from five to twenty grains, or even thirty grains. No

heart depression has as yet been noted. It must, however, be kept airtight.

Coretin comes in a bright colored crystalline powder. It is slightly soluble in water and alcohol. It is non-toxic and nearly odorless. It is a substitute for iodoform. An alcoholic solution is preferable.

It is not advised to use this preparation for the anterior teeth, as a slight discoloration would probably result. It is recommended especially where iodoform seems to cause irritation.

Europhen. Europhen is another of the substitutes for iodoform. Its usefulness in dentistry, however, is more limited than iodoform.

It appears as an amorphous yellow powder, having a faint saffron-like odor. It is soluble in ether. Its best use in dentistry seems to be in combination with boracic acid, equal parts, as an application to pyorrhea pockets and inflamed gums.

Silver Salts. Lactate of silver is a white, odorless, almost tasteless powder, non-poisonous and slightly irritating. Soluble in fifteen parts of water. It should be kept in a brown glass bottle.

Citrate of silver is a light powder, without odor and almost without taste. It is non-poisonous and absolutely non-irritating.

Like the lactate, it is a strong antiseptic, but requires thirty-eight hundred parts of water for solution; hence its non-irritating quality.

In pulp treatment it is advised to use a one to two thousand solution of the lactate to thoroughly wash out the pulp canals. Then after drying, to introduce its powdered citrate into the canals. This is to be continued until odor ceases.

It is not deemed advisable to employ these agents in the anterior teeth less discoloration obtain. The root canals will turn black.

They can also be used with advantage as a mouth wash, in dilute proportions, in pyorrhea alveolaris.

Glyco-Thymoline. Glyco-Thymoline is a mild, non-irritating antiseptic, slightly alkaline in reaction, of claret color and pungent taste. Non-toxic.

It is of value in the pus pockets of pyorrhea alveolaris, and as a deodorizer in foul mouths. It will effectually destroy the tobacco odor.

It gives gratifying results in the spongy gums resulting from the wearing of rubber plates.

It is to be used in various degrees of solution.

Being alkaline, it is superior as a prophylactic to the great number of acid preparations.

Pulpol. Pulpol is a new medicated cement; non-irritating, a bad conductor of heat, a powerful antiseptic and anodyne.

Its chief ingredients are oxide of zinc and eugenol, containing almost thirty per cent. of the latter.

Its use is chiefly as a therapeutic pulp capper, hence its description in this report.

It should be mixed to a consistency a little less than doughy, and applied without pressure. It will harden sufficiently in from five to fifteen minutes to stand a filling being introduced. It will harden as well under saliva as if kept dry.

Report of Committee on Clinics.

The Committee on Clinics beg to report, that notwithstanding the fact that a majority of the gentlemen advertised as clinicians at this meeting failed to materialize (though a number of regrets were received by the chairman), and proper cases and patients could not be procured for others ready to fulfil their part of the programme, quite a number of very interesting and instructive clinics were given in this room yesterday, a synopsis of which will be found subjoined.

Clinic by Dr. F. M. Finley, Washington, D. C.:

1. Models, photographs and finished cap fillings of case in practice of raising or opening the bite to avoid painful mastication.
2. Simply constructed retaining appliance made of German silver; also models showing each step in regulating upper and lower denture.
3. Models showing opening or raising the bite by complete cap and combination crowns.

Clinic by Dr. E. Nevin Stump, Marietta, Pa.:

Restoration of first molar upper crown restored with Electra Mat Gold. The little time required and the compatibility of this gold to tooth structure to be considered as well as solidity of gold.

Dr. L. B. Wilson, Cumberland, Md., gave an interesting clinic on electric deposition of metals for regulating and crown and bridge work, and also a simple and effective method of administering anæsthetics.

Dr. C. B. Bratt, Allegheny, Pa., filled a labial, cervical cavity with gold, without rubber dam or clamp, pushing back the gum and preventing ingress of moisture by the packing under it of a twist of cotton dipped in trichloroacetic acid.

Dr. S. Eldridge Gilbert, Philadelphia, Pa., successfully applied cataphoresis for the above operation by his improved apparatus for the operation.

Dr. George Evans, New York, demonstrated the making of seamless gold crowns, using a series of dies and exhibited a great deal of skill in the operation. He also exhibited a new and novel cotton holder.

Dr. S. Blair Luckey, Chester, Pa., demonstrated the use and advantage of gold and platinum foil for surface of gold fillings.

Dr. V. de Trey, Basle, Switzerland, filled a large cavity in a superior left incisor with his father's Solila gold, demonstrating the ease and rapidity of its manipulation in a thoroughly satisfactory manner.

Dr. T. S. Waters, Baltimore, Md., gave a very interesting exhibition of plating metals with gold, using W. H. Pohlman's pure gold solution, and supplying the current through a strip of pure zinc.

Dr. Chas. W. Strang, Bridgeport, Conn., filled a lower molar with a combination of oxyphosphate and amalgam, to the delight and comfort of the patient.

Dr. E. K. Wedelstaedt, St. Paul, Minn., exhibited his amalgam compressor, designed to measure the expansion and shrinkage in amalgam used for fillings.

In closing this report the committee wish to express their sincere thanks to the gentlemen who performed the operations mentioned, a number of them not appearing on the programme as published, as well to the S. S. White Dental Mfg. Co., the Consolidated Dental Mfg. Co., and Johnson & Lund for chairs and appliances loaned for use during clinics. Respectfully,

OSCAR ADELBERG, Chairman.

Election of Officers.

The election of officers resulted as follows:

President—Dr. J. L. Crater; Vice-President—Dr. J. Allen Osmun; Secretary—Dr. Chares A. Meeker; Treasurer—Dr. Henry A. Hull; Executive Committee—Dr. H. S. Sutphen, Dr. Oscar Adelberg, Dr. F. Edsall Riley, Dr. C. W. F. Holbrook; Membership Committee—Dr. Wm. E. Truex, Dr. F. L. Hindle, Dr. F. G. Gregory, Dr. W. L. Fish, Dr. W. H. Pruden.

For recommendation to the Governor for appointment as a member of the State Board of Examination and Registration in Dentistry, Dr. George Emery Adams.



Second District Dental Society—November Meeting.

Dangers of Immediate Separation of Teeth.

Dr. Walker. Relative to the immediate separation of teeth for filling, I have had a case, the patient being about 30 years old, where the two central incisors were very troublesome; they were sensitive to heat and cold. A little cold water taken at night would set them aching until morning, sometimes. I looked them over carefully and tested them; there was a small gold filling in each of them, which did not, however, extend to the pulp. I dismissed the case for a few days, but it came back with the same complaint, so I concluded the teeth were dead. I have had trouble with dead teeth before, being sensitive to heat and cold, and I took the patient around to Dr. Turner's office to use his electric light. We looked at the teeth and found them very opaque. I took the patient back to my office and drilled into the teeth. From the first one a little pus came out as soon as I opened the canal; the second was perfectly dry. The fillings did not extend to the pulp and I began trying to find out what could have been the cause of the death of those pulps. I finally decided that the death of those pulps was caused by immediate separating of the teeth for filling. He had had the teeth so separated, and said it was very painful at the time. I never do that in my own practice, and call your attention to it, because I do not think it is safe practice.

Dr. Brockaway. It is not impossible, of course, that immediate separating may cause the death of pulps, although all of us doubtless have had experiences where teeth died without any appreciable reason, long before immediate separating occurred. I have used Dr. Perry's immediate separator hundreds of times, and I should hardly feel like dispensing with it. I am not aware that I ever produced any injury of that kind with its use. I have had it used on my own teeth, and when used with discretion, I think it is no more harmful than almost any other instrument that we are in the habit of employing.

Facial Neuralgia from Necrosis.

Dr. Russell. I have had two or three rather odd cases lately, due to necrosis, of trouble with the ear, or facial neuralgia,—cases that show no apparent reason for the condition. The patients complain of pains through the upper jaw back of the ear, and pain in the ear, from which they have suffered for the last six months, being scarcely able to sleep. I have three such cases. One, a woman about 50, with a fine set of teeth—almost perfect. She had slight pyorrhea of the first molar. The pain in her face she had had for about three years, having been treated by specialists, and had her throat and nose examined, but nothing could be found. I could find nothing and sent her to have the first molar taken out; she came back and I found necrosis extending up to the floor of the antrum, but there was no apparent outward sign of any trouble. During the past two weeks I have had two other cases, one quite a young girl. She has had facial neuralgia for about six months. Teeth are in perfect condition. The first molar was dead, but not at all sore, and had never given her any trouble. I had this taken out and took out a piece of bone, probably half an inch square, above the socket, and in twenty-four hours her pain had subsided, and the neuralgia was all gone. These cases are rare, but I call them to your attention because of the suffering which the patient has to endure. Another peculiar case—a gouty condition of the mouth. Patient complained of soreness of the mouth, sore spots here and there, and the roof of the mouth and tongue looked as if they had been blistered. On examination of the tongue, I found the papillæ were enlarged, and could be stretched very much, as you would, so to speak, sway fields of wheat. I have had two of these cases, one quite recently; both healed by the same treatment used in cases of gout.

Dr. Ferris. Parallel with Dr. Russell's first case, a patient who had been treated by a specialist for earache, was sent by this specialist to an oculist, and as he could not find any reason for the earache, he sent her to me thinking her teeth might be the cause of the trouble. The woman had been suffering intensely and had been under morphine a good deal of the time. On examination I found the lower bicuspid was loosened. I tested it with heat and cold, and finding these had no effect, I drilled into it, and as soon as I entered the pulp chamber—she was suffering all this time with earache—she said the earache had stopped. I opened into a putrescent pulp canal. I treated the tooth and she had relief.

Tooth Replantation in a Fractured Maxilla.

By DR. CHARLES NEVITTE GIBBONS, New Orleans, La.

The article written by Dr. Russell Cool, in November number of *ITEMS OF INTEREST*, on implantation and its associated operations, calls to mind an operation which may be of interest. We cannot say too much on a subject so important to the profession as replantation, transplantation and implantation, operations which can be so successfully performed by a careful operator.

A failure cannot be recorded by a single professional man with any reasonable precautions to asepsis, and it is strange that we find so few who will attempt so simple and yet so important a restoration or cure.

The case called to mind by the writer, a boy of wealthy parentage, age twelve, healthy and with good constitution, was severely kicked in the face by a horse, making a clean incision reaching from the inferior margin of the right eye to the oral cavity, exposing the bones of the face. Dr. Hale, the family physician, after paring and dressing the wounds (three of a very serious character), found that the right central was missing. Being consulted, a search for the missing member was suggested, but it was not found until a late hour on the following day. At 1.30 P. M., the next day, a careful examination revealed fracture and dislocation of the superior maxillary from its articulating bones. Owing to the fever and swelling in the face, the operation was dreaded, but with difficulty the clot was removed and the sinus thoroughly washed with carbolic acid and bichloride solution, and every aseptic precaution being taken, appliances were then made and attached to the remaining teeth to secure and hold the maxilla in its proper position.

The pulp of the right central being extirpated, properly treated and filled in the usual manner, and kept in a solution of carbolic acid for two or three hours, was then forced into its socket with difficulty. The tooth could not be brought into its proper position but was ligatured with silk floss as near as possible. The patient was then instructed to use an antiseptic mouth wash, and after eight or ten days was able to leave the bed and came to my office for treatment. An appliance was then made to regulate the dislocated teeth and force the maxilla in its normal position.

I saw the patient twice per week, and after a period of sixty days, the tooth was firmly attached in position and the contour of the face normal.

To-day I find only a scar, and one would never know an accident had occurred.

Office and Laboratory

The Equipment of a Country Dental Office.

Office of DR. T. M. JAMISON, Okolona, Miss.

As the readers of ITEMS OF INTEREST have been given several beautiful illustrated and well written articles on office furnishings, we may now discuss the equipment of the country office.

I suspect from a personal feeling, that many of us who are less fortunate in practice and financial ability to supply these convenient surroundings, have looked upon these pictures, and read covetously these articles that have appeared from month to month.

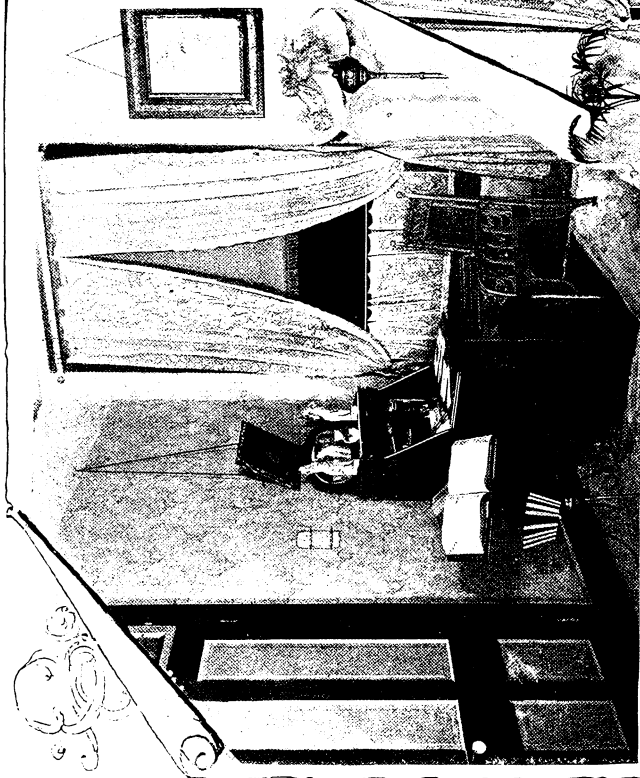
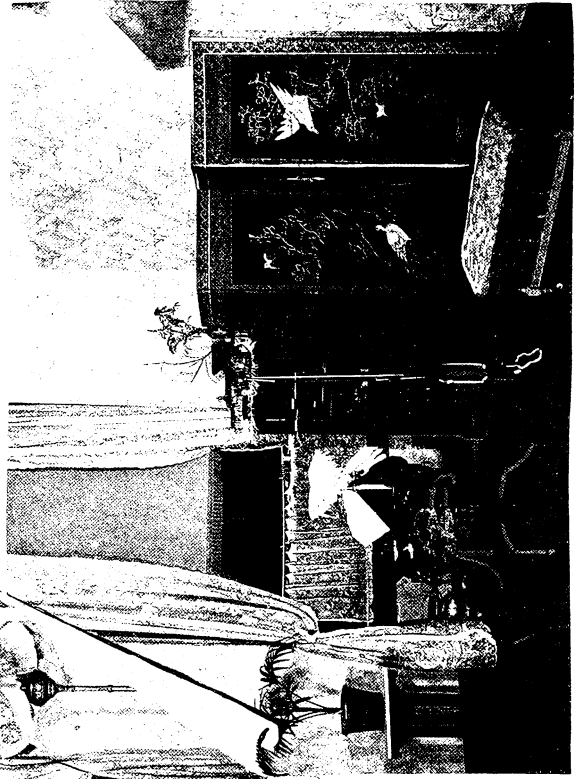
The writer is a believer in all things attendant upon dental practice, and while our income may be small and we cannot afford the outlay of Dr. Rhein or Dr. Kells, we can all provide comfortable and neat office quarters.

My office is located in a small town of twenty-five hundred inhabitants, one-half of this population being negroes, and as I do not work for the "dusky element," the reader can appreciate what a small field of operation I have, when I state further that another dental sign hangs just across the street.

I have two connecting rooms, seventeen by seventeen feet, on the second floor, with north and south exposures. The front and north room I use for operating. This floor is supplied with neat straw matting and rugs, except under the operating chair where I use an oil cloth square, as it can be easily cleaned each morning. Near my chair and to the



OPERATING ROOM



A Corner in the Operating Room

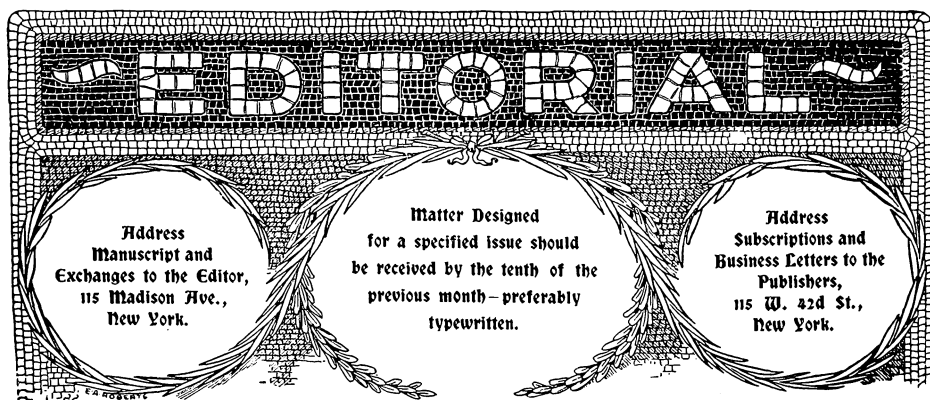
right is an instrument cabinet, complete and convenient, as its construction affords bracket as well as drawers for instruments and medicine shelves. To the rear of this, a screen shuts off a small space which I use as a place for soiled linen, operating coats and a general wardrobe. To the left of the operating chair, and just in front of one of the north windows, a desk is kept, while just in the rear of the chair, at a convenient distance, is a washstand, and cooler for drinking purposes.

Leading from and adjoining this operating room, a small hall ten by twelve feet, partitioned off from the main entrance hall by portiere curtains, affords ample space for a laboratory.

The south room, divided from the operating room only by a rope portiere curtain, is used as a reception or waiting room. This floor likewise has only matting and rugs, but I have endeavored to impart to this in its furnishings, as much a homelike appearance as possible. A dresser, couch and easy chairs together with the stove, which is located near the large connecting opening and supplies heat for both rooms, form the furnishings. Here patients waiting their engagements may rest comfortably, and enjoy the papers, magazines and books with which I always keep them supplied. In this room at the south windows, a dozen potted plants are kept on brackets, and our patients of the gentler sex always find time to admire their beauty and speak of their refining influences.

An office boy is indispensable for an office however small, and while our practice is not remunerative enough to justify the outlay for electrical engine, fans and other appliances, even if we were so situated as to have them at hand, we must be content with the ordinary engine and mechanical mallet. The country dentist cannot hope to enjoy the luxury of Oriental rugs, Turkish divans, and rich draperies, yet there are none of us so poor, or whose practice is so small, that he cannot provide a comfortable and inviting office and enjoy the distinction of being cleanly.





Blind Leaders of the Blind.

The editor of the *Dental Digest*, since he has been an editor, has felt it necessary to engage in controversies with the editors of several dental journals; consequently in the regular sequence it was but natural to suppose that the editor of *ITEMS OF INTEREST* would be made to feel the weight of his pen, in due time. Indeed one or two slight attacks appeared during the last year, but have been disregarded because the pages of this magazine are not to be prostituted by personal quarrels. In the January issue of the *Digest*, however, is found an editorial which cannot be ignored, because it attacks a position which has been assumed by a large proportion of the leading men in dentistry; and further because it is published in a magazine on the cover of which we find the charmed words, "The official organ of the Dental Protective Association."

If this claim be true, then we should expect an editorial utterance appearing in this magazine to represent the deliberate thought and to prognostigate the probable action of the members of the Protective Association. But by a singular coincidence while the editor of the *Digest* was penning his editorial, the leading members of the Protective Association and some thousand other dentists were appending their signatures in approval of the very movement which the *Digest* editor announces to be "without merit and entirely useless."

It becomes necessary, therefore, to calmly deliberate and discover whether the position assumed by the editor of the *Digest* is correct. Cer-

tainly it would be distressing to have the dentists of this country ridiculed by our National Congress. That the whole subject may be fairly stated let us begin by reading over the editorial in question.

**Editorial
from
Dental Digest.**

The editor of the *ITEMS OF INTEREST* is still pushing the amendment to the patent law, and as correspondent to the New York State Dental Society we could understand his desire to start a discussion on some subject which had not been worn threadbare, and thus give added interest to his office.

He urged a reform in our patent laws. It must have been quite gratifying to him to have had responses from so many presidents, pledging the support of their respective societies in the great work of reforming our patent laws, viz., "A petition to Congress for an act to restrain the granting of patents upon any method of treating human disease."

Now as there are no patents granted on methods of treating human disease, the correspondent of the New York State Dental Society would have better dropped this question with the reading of the report at the annual meeting, and thus have made no farther exposure of his lack of knowledge of patent laws. From the January number of *ITEMS OF INTEREST*, however, we see that the imaginary reform is still being pushed, and that the correspondent is not only bound to continue in his folly, but is in a fair way to make the dental profession an object of ridicule, by securing aid from different societies in a movement which is sheer nonsense. We are quoted as having taken part in the discussion when this report was read. We opposed the move then for the same reason as now, and stated at that time we could conceive of no form of treating human disease which could be patented. We entered our protest fully at that time and should not pursue the controversy farther, except for the fact that the odium of such folly will fall, in part at least, upon our profession. For, as the editor says, "The movement, then, is inaugurated by the several state dental associations of this country, and must in no manner be considered as the enterprise of this magazine."

If the enterprising officers of the journal in question were the only ones bound to be the subject of ridicule when the proposed bill is presented to Congress, we should be disposed to let them have it all their own way. But as thirty-two presidents of as many societies have responded, pledging their support, and as some of these societies have since appointed committees to work in the interest of the movement, it now takes the shape of a move on the part of the profession, and it is time that some authorized opinion be given. When the blind lead the blind both fall into the ditch.

It is worthy of note that one society, at Washington, D. C., after having the matter presented to them by their president, reported thus: "Our society instructs me to say that at present they are compelled to decline your suggestions, upon the ground that they know of no patents allowable by our government upon any method of treating disease, as far as they are informed, nothing but a process being patentable."—C. W. Appler, Secretary, Washington, D. C. The correspondent recognizes that this change of expression from the society was probably given after having taken proper counsel.

The correspondent also stated in his report that he had a letter from a patent attorney at Washington, written in flattering terms of his editorial, but claiming as did the Washington society, that no such patents could be legal under existing laws.

We have taken the advice of our patent attorneys and they also say that there are no methods such as the correspondent of the New York society attempts to describe which could possibly be patented, and they consider such a movement without merit and entirely useless. Therefore it is to be hoped that the agitation will not be pushed by the dental societies of the country.

Coming from the man who organized the Dental Protective Association, and appearing in a magazine which purports to be the official organ of that association, nothing could be more luridly comic than the above. Has the gentleman grown so fond of protecting dentists from unjust patents, that he cannot bear to see the dentists make a movement to protect themselves? Has he acquired the divine privilege to determine all our rights in patent matters for us? He need not reply to these queries, if to do so would embarrass him.

It is impossible, however, to overlook the comic aspect of this editorial, which really should have been offered to *Puck* or *Judge*. Here is a gentleman who has for ten years led us all to believe that abroad in the land there are a set of patent sharks, who obtain patent rights merely to harass dentists; and after all this time, when the dentists, tired of fighting illegally granted patents, undertake to make it impossible for any more such patents to come into existence he tells us calmly, "There are no such patents!" If no patents can be obtained with which the dental world can be harassed, why do we need the Protective Association? As a comic tale to a comic kite, a circular letter just received is a fitting appendage.

2231 Prairie avenue,

Chicago, February 4, 1898.

**Circular
Letter.**

Dear Doctor: We are in receipt of a notice from the International Tooth Crown Company of their intention to commence suits against members of the dental profession who are infringing their patent claims.

From the best information we can get this company is reorganizing their corporation and probably including in it other patent companies. It is certainly their intention to reopen the litigation by bringing new suits against members of the profession on a new record. We can take care of the members of the association and cope with the Crown Co. in any contest that may be brought, as we have been doing for ten years

past, but in order to do so we must be furnished with funds to pay our attorneys for work done in the past, before we can ask them to take up our defense again. We must also have means at command for current expenses. Therefore, it is necessary to levy the assessment of ten dollars which the by-laws of the association authorizes us to make. We cannot afford to let the Crown Co. obtain a decree from the court which would compel us to pay for all infringement on their patent claims past as well as future, nor to harass us in other ways.

We feel sure you will appreciate the importance of immediate action and send the ten dollars without delay. Yours fraternally,

J. N. CROUSE, Chairman.

Thus we learn that it is useless for the dentists to hope to help themselves. All that is necessary is to send in ten dollars and get protection. By abandoning the petition to Congress and following this course, we may hope to see the Dental Protective Association and its trade adjuncts continue to thrive. But comic as it is, the editorial must be answered seriously.

**Washington
Society Indorses
the Appeal.**

First, then, the editor of the *Digest* takes comfort in the thought that the only society which had legal advice declined to give support to the movement. In reply to that, it may be stated, that during January, the correspondent of the New York society, "the blind leader" (sic) was entertained by the aforesaid society, to wit, the Washington City Dental Society, at a dinner in Washington. The repast was followed by a discussion of this matter, in which our object was explained, the patent attorney who had previously advised against the movement being present and taking part in the discussion. It is unnecessary here to detail the *pros* and *cons* that were brought out. Suffice it to say that in the end, the society unanimously voted to indorse the appeal to Congress, and the patent lawyer, being requested so to do, agreed to become our attorney and to represent us in Washington during this session. In further explanation of the necessity of having an attorney, details of the work which he will undertake will be given.

**Patented
Methods of
Creating Disease.**

The editor of the *Digest* further announces that no patents on methods of treating disease "could possibly be patented." This is the statement of the attorneys of the Protective Association presumably, which proves either that they do not understand our

business, or else they do not understand theirs. A statement that a thing cannot be, is best answered by showing that it is. Consequently, to refute this peculiar claim, it is only needful to cite a few patents on methods of treating disease.

First, however, let us comprehend what we mean by treating disease. If a man have his arm cut off by a circular saw that is an accident, but if he have it amputated because of tuberculosis that is an example of disease. If a man have a tooth knocked out in a fistic controversy that also is an accident, but if it be slowly destroyed by caries, that is disease. The recognized treatment of this tooth-disease is by filling. *Any method of filling teeth, therefore, is a method of treating disease,* and patents of this character will be cited.

If caries progresses until the pulp is exposed, that is another phase of oral disease, and treatment of the pulp should not be patented, yet such patents exist. If a putrescent pulp lingers in a tooth, the natural crown becomes blackened from this diseased condition, and bleaching that tooth is treating disease. Such methods have been patented. If all the teeth from disease, or other cause be lost, the patient being edentulous is prevented from properly masticating food. Improperly masticated food entails indigestion and all the physical ills that follow in the wake of that too common ailment. The insertion of artificial teeth, is the only and best remedy, and, therefore, *to insert a set of artificial teeth is to treat human disease.* The same arguments apply to crown and bridge work methods. In short, *all the work which a dentist accomplishes with his own hands in restoring the condition of his patient's mouth is in the strictest sense of the words treating human disease.* And some of us, some three thousand of us, think that we should be permitted to do for our patients whatever we may be able to do with our own hands, and by our own skill. What can be manufactured and furnished to us, which may aid us in this work, we are quite willing to see patented, and we are willing to pay a price therefor sufficient to allow a satisfactory remuneration to the inventor.

Let us now see what methods have been patented.

Dated May 22, 1883. C. M. Richmond.

Patent No. 277,943. This covers a method of cutting grooves on opposite sides of a living tooth and then removing the natural crown with incising forceps. The pulp is then to be removed by driving a sharpened orange wood stick into the pulp canal, which is later filled with a similar orange wood stick.

This patent has been declared invalid by the Supreme Court. But not only was it granted, but when declared invalid it was invalidated because the contestant proved *priority*. Here a fine opportunity was lost. Had the contestant claimed that it was *a method of treating disease*, and consequently *not a subject of patent*, and had the Court so held, a precedent would have been erected which would have been invaluable to dentists, and which would have made our present appeal to Congress indeed unnecessary, for such a ruling by the court would be better even than the statute which we ask, which in turn must be tested in court before it can become established as a final principal. Evidently the defendants in this case blundered egregiously.

Dated May 22, 1883. C. M. Richmond.

Patent No. 277,935. This covers a method of freezing a tooth by ether spray when a living pulp is to be removed, the tooth being isolated from its fellows by the rubber dam.

The claimant naively admits that the ether spray has been used prior to his claim, but he was "not aware that means have ever been used whereby to prevent injury to adjacent teeth by localizing those operated on."

Thus in effect the patent is granted on isolating one tooth with the rubber dam. Do our patent laws need revision? In connection with this patent our attorney writes:

"This patent comes nearest to a pure method of treating disease that I have found. I am surprised and disgusted to find such a patent of record."

Dated Dec. 29, 1896, M. W. Hollingsworth.

Patent No. 574,033. Part of this claim reads as follows: "I claim the hereinbefore described method of bleaching teeth, which consists in applying to a tooth in the mouth a holder for bleaching liquid, exhausting air from holder and causing a current of electricity to pass through the tooth, substantially as set forth."

Apparently *every person who cataphorically bleaches a tooth, isolating the same with a rubber tube, infringes this patent* and would be liable in a suit for damages. Nevertheless we are told that no method of treatment could be patented.

Then there are a few interesting patents on filling teeth, which is unquestionably a method of treating disease.

Dated Dec. 20, 1887, and patent No. 454,566.

Patent No. 375,167. dated June 23, 1891, granted to C. H. Land, cover methods of filling teeth with porcelain.

ITEMS OF INTEREST

- Dated April 2, 1889. D. C. McNaughton.
Patent No. 400,585. Covers a method of filling teeth sensitive at the neck or slightly decayed, by placing a band of metal having cement between it and the tooth.
- Dated April 30, 1889. Albert Robinson.
Patent No. 402,352. Covers a method of swaging gold to fit the cavity, filling same with melted metal, and cementing such a filling into the cavity.
- Dated June 4, 1889. Elbert C. Taylor.
Patent No. 404,745. Covers a method of filling teeth by electroplating the cavity, inserting a plug in the cavity and filling the space by electro-deposition.
- Dated Dec. 9, 1873. Charles E. Blake.
Patent No. 145,275. Covers a method of filling teeth with gold so as to have a platinum surface. The gold filling is placed first, then a piece of platinum, having one side coated with gold, is added to the filling, the gold surface of the platinum cohering with the gold in the tooth.
- Dated Feb. 17, 1891. J. W. Clowes.
Patent No. 446,769. Covers a method of filling cavities in adjacent teeth with plastic materials extending from one tooth to the other across the space.
- Dated May 2, 1871. Charles H. Mack.
Patent No. 114,454. Covers a method of screwing screws into teeth for securing fillings.
- Dated Jan. 15, 1895. Jas. W. Dennis.
Patent No. 532,725. A method of filling teeth by coating the walls of the cavity with oxy-phosphate or some varnish, and sprinkling over this a finely comminuted copper; then more oxy-phosphate in which perhaps there is a supply of the copper dust, and towards the surface amalgam and sometimes gold.
- Dated July 24, 1888. Wm. A. Dart.
Patent No. 386,692. Covers a method of filling large approximal cavities by swaging partial cap to restore contour, soldering pins on the inner side and holding same in position with cement.

The editor of the *Digest* wisely informs his readers that no patent on a method of treating disease is possible. Here are ten about which there can be no sort of quibbling. *These inventors have nothing for sale. They manufacture nothing. They supply the dentist with nothing beyond directions.* The dentist does all the work, and he does it in the mouths of his patient. Is he treating disease? If not, then throw away the title "surgeon." If dental operations upon diseased teeth, which cure the disease, is not treatment of disease, then the dentist is not a doctor, but an artisan; not a stomatologist, but a mere mechanic. All his work is mechanic art, and he is rightfully under the thralldom of patent laws which protect processes.

How many men who read this, have been aware of the fact that when they place gutta percha in adjacent cavities in the teeth of children, they infringe a patent, and become liable for damages?

Yet such is the case, for despite the assertions of the *Digest* editor and his corps of legal advisers that such things cannot be, we find that as recently as 1891 Dr. Clowes obtained such a patent as cited above. In his claim he uses the following language:

"The plastic material which I have so far found to be best adapted for this purpose of my invention is the ordinary dental amalgam; but I do not limit myself to this material, as any other suitable plastic material may be used which sufficiently hardens and solidifies after it is put in place."

Perhaps the first important annoyance which
The Rubber Company. the dental profession suffered from patent holders was under the system inaugurated by the Rubber Company, which exacted a license for constructing dental plates of vulcanite rubber. Not satisfied with placing the manufactured article on sale, the patent holders insisted on collecting a license from all who used the so-called method. Dentists are no more dishonorable nor dishonest than other classes of men, yet the exaction of this license, which was a legal right of the patent holder was resisted bitterly. The result was that in order to enforce payment, the company hired spies who went about procuring sets of teeth, and then swearing to affidavits upon which suits for infringement were brought. When it is recalled that under the ordinary rules of patent rights the Rubber Company was *legally* entitled to operate in this manner, the question naturally arises, why did an honorable body of men resist? The answer is that, while the law did not and does not yet differentiate between the dentist and the ordinary mechanic, the dentists themselves intuitively felt that their calling was entitled to exemption from such exactions. It was not the payment of the paltry fee which they resented, but they acted upon a principle, recognized perhaps by no others, but universally conceded to be just by the fraternity. No dentist was thought dishonest because he had *cheated* the Rubber Company. The legal rights of the company were not recognized by the dental community as just, and when a community considers that legal privileges are unjust, it is common custom and common sense that the law should be modified. The same professional feeling

is extant today and that is why we appeal to Congress for a modification of existing statutes.

The Rubber Company passed and presently another similar body burst upon the dental horizon. **Tooth Crown Company.** The International Tooth Crown Company. The same methods of procedure were inaugurated, and it is said that some of the same men and the same spies who had aided the Rubber Company, also assisted the Tooth Crown Company.

Then a wise man appeared in the West. A man with a purpose, a man with a will. He advised the **Dental Protective Association.** dentists to offer organized resistance. To associate together and to subscribe ten dollars each to a fund for mutual protection. Thus was born the Dental Protective Association. But who will deny that all who joined supposed that the Tooth Crown Company was to be fought in the hope of setting up a principle? Men were taking licenses. They were told "it will cost less to join the Protective Association and then you will not need a license."

Has this hope been realized? Has any effort been made to erect this principle which the whole dental world believes to be just? So far as the meagre reports that have been given out inform us, *nothing of the sort has been even attempted*. The fight has been conducted solely on one line. The patents have been fought separately and one after the other declared invalid, *because priority of invention was shown*. In no instance, so far as has been publicly declared, has the claim been made and sustained that the method was not a subject of patent. Now we hear that the Tooth Crown Company, worsted in the first ten years' fight "is re-organizing their corporation and probably including in it other patent companies." Exactly! Is it presumable that these men of commerce do not by this time understand the futility of endeavoring to sustain flimsy patents on antiquated methods? Is it not more likely that they will now endeavor to enforce *recent, and good* patents? *Patents, which the priority racket will be powerless to invalidate.*

Perhaps it would be interesting to look over some of the patents which have been granted, and which are exactly similar to the old Rubber Company's patents in that they cover methods of con-

Patents on Dentures.

structing dental plates, the inventors furnishing nothing to the dentist but a method of work. The subjoined list, be it remembered, though covering methods of manipulation which are not strictly done *in* the mouth, nevertheless restrict work done *for* the mouth, and consequently limit the powers of the dentist in treating diseased conditions.

Dated Sept. 18, 1894. G. W. Traphagen.
Patent No. 526,332. Covers a method of swaging metal plates so as to form a continuous upturned margin.

All persons who follow the old fashion of swaging up the margin of plates, so as to form a neat edge, infringe this patent.

Dated Dec. 18, 1894. M. P. Boyd.
Patent No. 531,092. Covers a method of packing the gum portion of a rubber plate with rubber dissolved in chloroform, before flasking, instead of using strips of rubber afterwards as is commonly done. A truly just patent!

Dated March 27, 1888. C. C. Carrol.
Patent No. 380,021. Covers cast aluminum dentures. Providentially this gentleman has tired of the traffic.

Dated Jan. 31, 1871. Mary Ann Boughton.
Patent No. 111,429. Covers a method of forming an air chamber. The chamber piece is placed in the roof of the mouth, and fashioned so as to hold by suction, before taking the impression, coming away with the impression and indicating the best position for the chamber. In some cases this might be an excellent idea, though not worthy of a patent. It is to be hoped in deference to the inventor's sex that this patent yielded a fortune.

Dated May 17, 1892. J. Payne.
Patent No. 474,967. Covers the making of an artificial denture using a special articulator, invented and patented by the same man.

This is a good example of our contention. Here is a man who invents an articulator, which in itself seems to be a good thing. He secures a patent thereon, which certainly should suffice to protect all just rights. But he is not content. He asks for and receives (though the *Digest* editor and his wise attorneys claim this is impossible) a separate patent, covering the use of his instrument. Thus he can *under one patent* have his articulators manufactured and sold, and having sold them he can *under his other patent exact a license* from every man who desires to use what he has purchased and paid for.

Dated Feb. 5, 1875. D. M. Lamb.
Patent No. 159,687. Covers dental plate made by vulcanizing the juice of milkweed. This inventor perhaps was envious of the Rubber Company's profits. He says his milkweed juice is much better than the vulcanite rubber, but apparently failed to popularize his product.

- Dated April 7, 1885. J. K. Morris.
Patent No. 315,319. Covers a method of burnishing tea-lead over the plaster model and again over the wax plate so that the vulcanite may be made uniformly thick and having bright surfaces.
- Dated April 14, 1885. Philip A. Palmer.
Patent No. 315,656. Covers a method of placing a band around a tooth which is to be clasped by a clasp of a partial denture.
- Dated May 26, 1885. W. W. Sheffield.
Patent No. 318,581. Covers a method of using what has come to be known as a "saddle," in bridge work.
- Dated July 28, 1891. Henry Marshall.
Patent No. 456,626. Covers a method of securing a lower plate. A gold crown is placed on a natural root, and the plate has a hole in it carrying a band which telescopes over the crowned tooth.
- Dated Dec. 15, 1891. M. R. Griswold.
Patent No. 465,076. Method of flasking a vulcanite plate in flask having three rings, so that the red and pink rubber may be packed from opposite sides.
- Dated Feb. 6, 1894. Lucius Robertson.
Patent No. 514,201. Covers method of constructing a hard rubber plate, having buccal ridges of soft rubber.
- Dated Feb. 19, 1878. Fahnestock and Powell.
Patent No. 200,445. Covers method of constructing all porcelain denture.
- Dated January 9, 1883. John B. Graves.
Patent No. 270,566. Method of making a model in three sections.
- Dated June 15, 1886. Albert Robinson.
Patent No. 343,967. Covers method of vulcanizing rubber plates with sponge gold at the palatal aspect.
- Dated July 28, 1885. Warren R. Evans.
Patent No. 323,306. Covers method of constructing vulcanite plate having a perforated gold plate imbedded in the rubber. There could be no objection to a patent on the perforated gold plate, which might be manufactured and supplied to the dentist, but the patent covers the method of using this plate.
- Dated May 8, 1888. P. J. Malone.
Patent No. 382,539. Covers a method of constructing horse shoe vulcanite plates. The model is marked where the plate should terminate, and along this line little holes are bored into the plaster model. As a result the vulcanite is taken out having a series of wart-like projections which the inventor sagely informs us "will indicate where the plate should be trimmed." This patent makes the operations of the patent office seem farcical.
- Dated Oct. 16, 1888. Wm. H. Miller.
Patent No. 391,062. Covers a method of constructing the anterior six teeth in accordance with the usual continuous gum method, and then constructing a full rubber denture using the six front as a single block of teeth.

**Crown
Patents.**

In addition to the above forty patents are at hand relating to methods of constructing crowns or bridges. In not one of all these has the inventor anything to supply to the dentist. All these patents cover methods of procedure, which the dentist himself must follow. There could have been no purpose in taking these patents except to extort money from dentists by the abominable license scheme. To this broad statement a few honorable exceptions must be noted. Among the crown and bridge patents occur a few taken out by prominent practitioners, who have covered their methods by patent, merely as a means of protecting the dental profession against the possibility of less scrupulous individuals securing patent protection for similar methods. For it has been abundantly proven that many patents have been claimed and granted upon methods not original with the claimants, and though these patents were fraudulent and legally worthless, nevertheless *it has cost the dental profession all the money that the Dental Protective Association has spent, to prove a very few of them to be invalid.*

But it cannot be claimed that every process patent of the kind which we wish to see interdicted has been *or will be* fraudulently obtained and *the Dental Protective Association would be powerless to protect its members or the profession at large from the impositions of such patent holders.* The only remedy lies in carrying our cause into the halls of our National law makers and asking for a modification of the patent laws which will give us freedom to do the best that is known for our patients.

**Why Dentists
Should be Exempt.**

But it will be asked, "Why should dentists be exempt from process patents?" and as this question must be met, an adequate reply will be pertinent at this point. There is a prevalent notion that the object of the patent laws is to reward inventors. This is a fallacy. Another popular error is that laws are made to protect individuals. The fundamental aim of legal enactments is the protection of the community; where the community is best protected by guarding the rights of individuals, strict laws to that effect have been passed; but where the assumed rights of the individual would conflict with the best good of the community, the individual will find scant redress from the law.

So with the patent laws. The aim is to supply the community with all that the inventive genius of the Nation can produce, and recognizing that the greatest incentive in the world is financial gain, the law has granted to the inventor a protection in the form of a property right in his invention to the exclusion of all others, for a term of years. But the Government has already set a limitation to this in a direction which aimed at the advantage of the Nation in preference to the advantage of the individual, in accord with the principal above enunciated. Thus, no person may obtain a patent upon any weapon of warfare, unless he agrees to give this Government special privileges in connection therewith. The Government holds that it would be unwise to grant a property right to one of its own citizens which would enable said citizen to furnish a foreign enemy with weapons of novel and valuable form, which the Government itself could not procure.

In similar fashion the broad principle should be erected that those who minister to and cure the diseases of the sick of the community, *should not have their modes of legitimate practice limited to such methods as have not been patented.* This principle is in the interest of the whole community.

In the interests of the dental world, it may be claimed that, as with other professional men, and unlike the followers of all other callings, the dentist is compelled by law to devote several years of his life to the acquirement of his professional skill, and having complied with restrictive laws which do not harass other callings, it is not just that he may be compelled by patent holders to pay a license for doing that which his education and experience teaches him is best for his patient. Moreover, this principle has been admitted by the several States, for yearly license fees to do business are exacted from other persons, but professional men are exempt. In most States professional men are also exempt from military as well as jury duty. So there being precedent for our claim and justice in it, there is no reason why we should not urge it upon Congress.

When the blank petitions were sent out, it was
Need for an not supposed that anyone would imagine that, the
Attorney. amendment as given, represented the exact form
 in which it would be presented to Congress. If the
 petition is carefully read it will be seen that the signer asks for an amend-

ment "in substance" similar to the suggestion appended. It is vitally essential that the wording should be most carefully prepared, in accord not only with legal language, but also in agreement with the many court decisions, which might apply. In addition to this it is a fact that any amendment to the patent laws, offered in Congress, would be referred to the Committee on Patents, and by that body it would be presented to the Patent Bar Association in Washington for an opinion. Here is the only place where opposition would be likely to arise and it is highly essential that a member of that Bar Association should represent us as our attorney, so as to fully explain our position, and, if possible, prevent their opposing us. For this purpose, and to formulate the amendment in suitable language, as well as to prepare a brief to be presented to the Committee on Patents, and for other services, as they may arise, it has been deemed essential to secure an attorney residing in Washington.

Blind In conclusion let us refer again to the editorial
Leaders. in the *Digest*. The editor informs us that "When the blind lead the blind both fall into the ditch."

This seems reasonable, but he may not fully appreciate the fact that "the blind do not continue to follow the blind forever." After two or three falls in ditches by the wayside, occasionally the blind consult an oculist, and, astigmatic eyesight being corrected, they cease to follow the original blind leader, and permit him to walk on unattended. Then perhaps they fill up the ditches. The deepest ditch in the pathway of dentistry is the process patent, with its quagmire of license fees and royalties at the bottom.

National Association Approves the Movement.

An advance copy of the above Editorial was forwarded to the convention of the Southern branch of the National Dental Association meeting at St. Augustine, Fla., Feb. 22d—25th. As we go to press the following telegram reaches us :

ST. AUGUSTINE, Feb. 22d.

R. OTTOLENGUI :—

Your letter and editorial read to the meeting. The Association passed a resolution approving the movement.

E. P. BEADLES, President.

Thus every important Society in the Country indorses the Appeal to Congress.



Cataphoresis;

Or, Electric Medicamental Diffusion as Applied in Medicine, Surgery and Dentistry.
By WILLIAM JAMES MORTON, M.D. Price, \$5.00. 8vo, pp. 267, ill., 76.
American Technical Book Co. New York, 1898.

To those who have had the good fortune to hear Dr. Morton lecture upon the subjects included under the title of this volume and who have seen his ingenious demonstrations, the fact that he has written a treatise upon the subject will be welcome news. His demonstrated familiarity with the subject, and his continued connection with its exposition give his utterances an authoritative value.

The history of cataphoresis is set forth in its general and special applications, and due credit is given each of the dental experimenters, who has added to the sum total of our knowledge in this field. A personal history of the subject is, however, incomplete and not entirely just, which fails to mention the early interest and influence which Dr. Edward C. Kirk, the editor of the *Dental Cosmos*, brought to bear upon the dental application of the principles of cataphoresis, particularly in relation to the bleaching of discolored dentine. It is an interesting fact that Dr. W. G. A. Bonwill as early as 1859 utilized an induced current as a dental analgesic. It is refreshing to note that the author's object appears to be to give each experimenter in this field his full meed of credit, and to weigh dispassionately each contribution in its historical and clinical aspects.

To praise Dr. Morton's work sweepingly and to state that the book deserves the careful perusal of every practitioner of dentistry and of medicine, is but stating the truth of the merit of his volume. The critical purist might take exception to some of the modes of expression and the literary form of the book, but these faults are not sufficiently frequent to warrant any but passing mention. There are evidences of occasional carelessness in proof reading and the printer's work is but indifferent; however, these or any other faults would be more than compensated for by the sterling character of the book, when examined in detail.

It is scarcely necessary to tell those familiar with Dr. Morton's expositions that the book is a model in point of clearness of explanation. It is the common fault among writers upon electricity that while they may make clear the fundamental principles of electrical science, and discourse satisfactorily upon its more complex problems, they fail to render clear that territory lying between the simple and the complex. The present volume is a striking exception to this general rule, for the author robs the complexities of electrical science of most of all terrors by making them as simple as they can be made. The reader who follows Dr. Morton's exposition of Ohm's law and its corollaries will declare that the book would be well worth reading for this alone. Again, the diagram Fig. 5 introduced to illustrate graphically the meaning of the terms used in electro-terminology is as ingenious as it is clear. The two aspects of this subject, the dual character of the current phenomena electrolysis and diffusion, are clearly set forth and unmistakably differentiated.

His illustrative examples are quite sufficient arguments to demonstrate the great importance and clinical value of electro-medicamental diffusion in every branch of special surgery; the volume being intended for the medical as well as for the dental practitioner. It is a peculiar gratification to the dental practitioner to note this intimate association of dental with other special surgery in scientific literature. It is but recently that medicine has taken intelligent cognizance of dental literature and the results cannot fail to be beneficial to both professions.

In the specially dental portions of the book, the author clearly sets forth the advantages of batteries over the street current. Those who use aqueous solutions of cocaine will be wise to weigh well the author's statements regarding guaiac cocaine. This section contains a number of short, terse and valuable rules as to the application of solutions and currents in the treatment of hypersensitive dentine, decidedly the best which have yet appeared in print. The author's advice to heat the guaiacol cocaine before using, should have a word of caution added, as to the danger of decomposing the cocaine by heat. Boiling cocaine decomposes it into methyl alcohol, benzoic acid and ecgonin. Eucaïne, which does not suffer this decomposition, the author states is not as effective as cocaine. The question as to the possible ill effects of cocaine cataphoresis upon the pulp itself finds an intelligible answer in the report of a case of Dr. Ottolengui's in which the pulp regained its normal sensory function in twenty-four hours and retained it. Many rational applications of both electrolysis and diffusion are suggested for the cure of a variety of dental disorders; both septic and vascular. Its use in pyorrhea is described a field in which this method of treatment will find extended application. The closing chapter on differential staining by means of

electrolysis and diffusion is highly suggestive, and gives a more precise significance to this means of histological differentiation. As a closing paragraph it may be truly said that this volume will be of great service to the reader not alone from what it will teach positively, but from the mistakes it will prevent.

H. B.

CORRESPONDENCE

Some Thoughts Regarding Examinations for Dental Licenses.

Editor ITEMS OF INTEREST:

For a proper understanding of the college examination question, it is clear that one must understand on the one hand the principle upon which a college is established and operates, including the qualifications, efforts and motives of its staff and controlling officers; and, on the other hand, the creation, constitution and duties of the Boards of Examiners.

In the discussions of this question, these things have been ignored because too well known, or because unknown, or from a false delicacy, the mainsprings of human action.

There is an old song, entitled "All are after money, so it's money after all;" this is manifestly not absolutely true. We all know that ambition or philanthropy will cause some to act, and that there are other motives; yet from the exceptional character of these, the subject of the old song remains practically correct; so much so, that in searching for the cause of a course of action, one begins by investigating the monetary bearing of the question upon all parties concerned.

Not long ago a lawyer explained the organization of a certain law school in this manner: "Mr. A— was given the position of dean of this school. He selected a secretary, Mr. B—, and then established the law department, assigned the fees, secured teachers as cheap as possible, absorbed the revenue, made no financial report and were amenable financially to no one." The principle seemed identical with that of the old Roman Publicani, with this exception, that the publicans required a percentage of the revenue, while the law officials got all.

If dental colleges are formed after this fashion, it seems to me there is no need for the profession to insist upon the prerogative to determine

what qualifications are necessary to practice dentistry. I am not aware that this is the case, but am a little curious to know whether our college boards privately defray all pecuniary obligations, and enjoy all pecuniary profits, without a financial report to enlist at least the co-operative sympathies of the fraternity. If no such report is made it seems tantamount to saying, it is no affair of ours upon what terms colleges place competitors or coadjutors in our field.

But if there are no mercenary motives in conducting our colleges, still there are other reasons for the examinations in question. Individually each professor is an autocrat in his chair. He sets all examination papers, including the final, and therefore passes upon all candidates in his subject. Now, it is an axiomatic truth with students that there are occasionally incompetent professors. It is not uncommon to find such with no professional training as an instructor, and with no experience as a teacher. Such a man equipped with undue anxiety to creditably acquit himself in his department and escape the censure of his superiors, may have his judgment so biased that with perfect honesty he may pass improperly qualified candidates. This can be corrected only by a second examination, or by having an outside examiner.

Again, since examinations for degrees are conducted by men who are intimate with the candidates and subject to charges of favoritism and unfairness, it is but just to these and to those graduated, to have another, an unacquainted and therefore impartial tribunal, set its seal upon the acts of the professors.

Furthermore, if the examiners have been influential in the elevation of the matriculation standard, this alone is an unanswerable argument for their existence. Such change may not reduce competition, but will assuredly enhance its dignity. In some towns physicians receive their proper designations and dentists are not even addressed as Mr. Such treatment can be changed but by merit.

The commercial competition among colleges has been referred to as a cause for a supervisory examination. Men of the calibre indicated by Dr. Darby's letter are too often allowed to compete with those who have pursued years of preliminary and special study and are well equipped to perform the ordinary duties of a dentist.

The argument that knowledge and skill will demonstrate a dentist's ability and secure him a practice is dishonest. When he begins his practice he is in no position to live on future justification of his competency. Every plate that an unworthy competitor secures, and every tooth he dooms is an argument against college competition purchased by comforts or necessities defrauded from the properly qualified dentist.

Examinations for licenses, besides elevating the basis of dental

qualification, will likewise bring a greater uniformity to the curricula of the colleges. Into one town Drs. Smith, Jones and White open offices at the same time, with diplomas from Chicago, Baltimore and Buffalo, respectively. The New Yorker perhaps thinks their diplomas inferior to his, but the State examinations level these differences and fraternizes these men. Would it not be well, were this examination uniform over many or all of the States? Then White might practice in Baltimore without the mental and financial inconvenience of a third examination.

Next, if these licensing examiners are so necessary, what about the characters and abilities of these men? How are they chosen? Is it possible that from some of them have come communications so illiterate as those in the possession of the dean referred to in an editorial in the *ITEMS OF INTEREST*?

That a large practice is not a criterion of a man's capability as a dentist, or as an examiner, goes without saying. It seems also unfair to appoint a man examiner, because he has money, political influence, can speak well at a dental convention, or even possesses the minimum amount of dental equipment to have a license, and as dentists we are too democratic to consent to self-appointment.

Since this examination is instituted by dentists to protect the profession, it is rational that they should choose their representatives, and approve of regulations governing appointment, qualifications, term of office, etc. One would think, too, that an examiner should possess that sympathy with the applicants, and with the maintenance of the standard, which can be derived only from having won a degree by examination himself. Mere licensees may be capable, but there is no doubting the superiority of a pilot who himself has gone over the route. It may be claimed that this will debar more competent men who made the profession before the advent of colleges. I submit in answer that they, too, as a matter of form, may take an examination and thus "fulfil all righteousness."

It cannot be too emphatically stated that interest in any college should disqualify a man from a position on the Board of Examiners. Such is not business. It is like allowing an insurance agent who is a physician to examine his own applicants.

It seems to me that only self-interest can oppose the license examination, if it be conducted by proper men in the proper spirit. It will add dignity and efficiency to our calling to which it behooves us to be disinterestedly loyal, frowning down favoritism or fawning; we want no inner rings to vitiate our franchise, which is as truly noble as that other, the heritage of our fathers.

W. S. ROSE, Schenectady, N. Y.

Failed to Give Credit.

Berlin, January 17, 1898.

Esteemed Colleague: No. 11, November, 1897, of your very highly esteemed publication, *ITEMS OF INTEREST*, contains a translation of an article taken from Nos. 8 and 9 (Vol. I, 1896) of *Odontologische Blätter*, written by my friend and colleague Dr. G. Hahl, whereas in the translation by Mr. Randorf the name appears as Hall, and the name of Prof. Boennecken, of Prague, also a pupil of Prof. Sauer, is given as Bonnecke. Mr. Randorf translates from our original article the following sentence: "Dieser Apparat besteht aus einem Draht, welcher genau den Zähnen entlang läuft und ein gegen den Oberkiefer schräg angebrachtes Stückchen Blech (=metal sheet) die schiefe Ebene (=slant) trägt."* On page 873, line 6, thus: This apparatus is of wire adjusted to the teeth and bearing a small piece of *tin*—fixed in a slanting position against the teeth of the upper jaw. Other errors of the printer or translator I will not mention.

Furthermore, it is against all journalistic usage not to give the original publication, in this case the *Odontologische Blätter*, in spite of the fact that the cuts were loaned from the publishers.

Dr. Hahl, Berlin, N. W. (6) Schiffbauerdamm 38, requests you through me, esteemed Mr. Editor, whom I certainly do not hold responsible for these errors, to kindly put him in possession of a copy of No. 11 (Vol. XIX) of *ITEMS OF INTEREST*. I am, etc.,

HANS ALBRECHT, D.D.S.,
Editor *Odontologische Blätter*.

We regret very much that due credit was not given in connection with our use of the article in question, which, however, was an error of omission rather than commission. The usual line of credit was present in the proofs, but dropped by mistake of printer when "making up." Our apologies are extended as well as our thanks for use of illustrations.—Editor.

* Translation.—This apparatus is of wire, adjusted exactly to the teeth and bearing a small piece of *metal sheet*—the *slant*, fixed in a slanting position against the upper jaw (mandibula).



Dr. Alonzo Boice.

Memorial Meeting.

On Saturday evening, February 12th, the Philadelphia County Dental Society held a memorial meeting to pay a just tribute of esteem to Dr. Alonzo Boice. The President, Dr. Faught, in opening the meeting said: "Death has removed from our sight the founder of this society, and it is fitting that we should come together, and in memory do honor to him. Death permits us to voice the common feeling of those who mourn his loss and to uplift an example worthy of human honor and imitation. He was a man possessed of a singularly modest nature, a retiring disposition, and shrank from human praise. We who have known him intimately, know his true worth and can in a measure, rightly estimate the loss the profession has sustained. Bound to him as we have been by the closest of ties of human friendship, we possess a pure and unalloyed remembrance without a shadow of regret or shame for the life which has now passed away. We can speak freely without any fear of ungenerous criticism the common judgment regarding his professional ability, his unswerving integrity, and his conscientious performance of duty and fulfillment of trust. I will call upon Dr. Charles E. Pike and will ask him to sketch for us the life of Dr. Boice."

Dr. Charles E. Pike then said: "Dr. Boice was born March 12th, 1847, in the town of Canajoharie, Montgomery County, New York. When but three years old, his place of residence became changed to the town of Olive, Ulster County, New York, where he remained until he commenced the study of dentistry. During his boyish and school days, he acquired some reputation among his playmates as a builder of toy houses, champion trout fisher, and leader in mathematics. At the age of fifteen, he began the study of dentistry with Dr. M. M. Frisselle, of Kingston, New York, and remained in his employ until he was solicited by his preceptor to enter into co-partnership with him. This he declined to do, having decided to take a course at Dental College. He matriculated in the Philadelphia Dental College and in due course graduated from it in 1869. He then entered into practice in Philadelphia and for a

short period was associated with Dr. Henry Townsend. Afterwards Dr. Boice and myself became thus associated in practice, but for many years, during the latter portion of his life, he continued in practice alone by himself. He was an expert oarsman, and almost from its inception was deeply interested in the affairs of the Crescent Boat Club of this city, of which he was still a member at the time of his death. He was a member of the Odontological Society of Pennsylvania, Pennsylvania State Dental Society, and the American Dental Association—in all of which at various times he had held important offices. He was also a member of the Union League, and an honorary member of the Central Dental Association of Northern New Jersey. Although Dr. Boice was never married, he may truly be said to have been a ladies' man. He had many warm friends among the fairer sex. He died February 2d, at his home in Kingston, New York, and was buried at that place February 5th."

The members present at the meeting then each in turn paid a loving tribute to the memory of the deceased member, each recalling some personal reminiscence, some kindly act, or some more marked trait in his character.

The following letters were then read:

February 10th, 1898.

DR. L. ASHLEY FAUGHT, D.D.S., President Philadelphia County Dental Society.

My dear Doctor and Friend: I had learned with sorrow of the death of our friend and fellow member Dr. Alonzo Boice and have just received notice of the memorial meeting to be held on Saturday evening, February 12th.

It is with so much regret that I deem it imprudent for me to attend evening meetings during the months of February and March especially, that I cannot refrain from sending you a few lines expressive of my sincere uniting in deploring the loss of so dear a friend, so able a co-worker, and so estimable a man. During the comparatively long period of his manhood's life it has been my privilege to know him intimately as student, as practitioner, as worker, and as valued friend; and during all that time, with all the vicissitudes of the life work, the ideas, the opinions and the desires of a conscientious practitioner of dentistry, I have never known him to be in the wrong.

As it has been given me to see the right, our friend Dr. Alonzo Boice has always championed it. He has left a record which seems to me to be exceptionally clean—and I believe I know it thoroughly.

As such then, I cannot deplore his "passing on," but I can, most feelingly, mourn the loss of one who was a loving friend.

Fraternally yours,

J. FOSTER FLAGG.

Chicago, February 10th, 1898.

DR. L. ASHLEY FAUGHT, D.D.S., President Philadelphia County Dental Society.

Dear Friend: Your postal this morning announcing the death of the secretary and our dear friend Boice shocks me very much.

I know you will all miss him very much indeed.

If the profession had a few more active spirits in it (and should have), what a profession we would have. Give my regards to the society and friends. Yours truly,

J. W. SLONAKER.

DR. L. ASHLEY FAUGHT, D.D.S., President Philadelphia County Dental Society.

Dear Dr. Faught: I much regret my inability to attend the memorial meeting of the Philadelphia County Dental Society tonight.

During the many years in which I knew Dr. Alonzo Boice, I became more and more appreciative of his many sterling qualities, and it was with deep regret that I learned of his death.

In devotion to his profession he was second to none, and for the protection of its interests against the unauthorized practitioner and the charlatan he gave all of himself—his time, his strength and his means.

Never were such services more needed than today; but the dentists of Philadelphia will wait long for a man who in that ungrateful task will take his place, and the Philadelphia County Dental Society honors itself in commemorating his worth and his work.

Very sincerely yours,

WILBUR F. LITCH.

Philadelphia, February 10th, 1898.

DR. L. ASHLEY FAUGHT, D.D.S., President Philadelphia County Dental Society.

Dear Doctor: I am very sorry that an engagement that I cannot put aside prevents my being present at the meeting to be held at Dr. Pike's office in memory of our friend, Dr. Boice.

In his death I feel that I have lost a warm personal friend, and a man with whose purposes in life I was in deep sympathy.

The professional man of today is too apt to forget the responsibility and duties owing by him to the public. He ignores the fact that his education and advantages in life bring a corresponding responsibility.

The professions offer as part of their reward reputation and honor.

The equivalent which the professional man should return for his reputation and honor, is a life devoted to the improvement of his fellow

citizens. Dr. Boice fully realized these responsibilities and gave a large portion of his time and means to their fulfillment.

The profession can ill afford to spare a man of this character, and his memory should be the incentive to many others to take up the work that he was forced to drop.

I hope you will express my regrets to the friends of Dr. Boice who are present at this meeting, as I assure you that nothing but an important engagement would keep me away. Yours very truly,

E. CLINTON RHODES.

West Chester, Pa., February 9th, 1898.

DR. L. ASHLEY FAUGHT, D.D.S., President Philadelphia County Dental Society.

Dear Dr. Faught: I feel deeply the death of our friend, Dr. Boice, but do not at present see my way clear to attend the memorial meeting of the Philadelphia County Dental Society at the office of Dr. Pike on seventh day evening next. With much sympathy, I am, thine very truly,

J. C. GREEN.

At the conclusion of the reading of these letters, a committee was appointed to draft for the minutes a suitable record of this meeting with power to make it as full a record of the life of Dr. Boice as possible by the aid of any additional facts they could obtain; also to prepare proper resolutions relative to his death, and to furnish a copy of these proceedings to the family of the deceased.

Dr. William E. Richardson.

Dr. William E. Richardson died December 5th, 1897, at his apartments in his block at Nos. 101 and 103 Main street, Batavia, N. Y., after an illness of twelve days with broncho-pneumonia of typhoidal type, following fibrous bronchitis. For several days previous to his taking to his bed he had been ailing, but he did not regard his condition as at all serious. Constant confinement and close attention to his business had weakened his constitution so that he was unable to withstand the ravages of disease and from the first it was feared that his case was hopeless. His brother, Dr. E. C. Richardson, of East Pembroke, and Dr. F. L. Tozier, of Batavia, were constantly in attendance upon him, and other medical aid was summoned, but without avail. He began to sink Saturday night and grew gradually weaker from that time. He was conscious up to within an hour before his death and his last hours were free from pain.

Dr. Richardson was born on February 8th, 1858, at Tecumseh, Mich., and was a son of the Rev. Chester C. Richardson, a Universalist clergyman. His early life was spent in Michigan and in several places in Western New York and in Pennsylvania. After a most thorough course of study he commenced the practice of dentistry in Bradford, Pa. He came to Batavia seventeen years ago and had continuously resided there since, having built up a prosperous practice. He was distinctly a self-made man and was completely wrapped up in his profession. The first teeth filling that he ever did was with instruments that he manufactured himself. He was particularly skillful in operative dentistry. Two years ago last March, at the request of the First District Dental Society in New York, he gave a clinic in operative dentistry before 300 students at the New York Dental College. Since then he had been called upon on several occasions to present similar work elsewhere and had become well known in his profession. While naturally of a genial disposition Dr. Richardson's close attention to business had prevented him from being intimately known by a wide circle of friends, but no better evidence of the high respect and esteem in which he was held in the community could be desired than was given in the great interest which was manifested in him by people of all classes during his illness. Sincere hopes for his recovery were heartily expressed on every side and in his death it is the unanimous expression that the community has sustained a great loss.

On January 17, 1879, Dr. Richardson was united in marriage to Miss Hattie Moulton, daughter of Mr. and Mrs. E. G. Moulton of Alexander, who survives him with three children, Elbridge M., aged 18, who is a student in the Baltimore (Md.) Dental College; Edith M., aged nine years, and William C., aged five years. He is also survived by his parents, the Rev. and Mrs. Chester C. Richardson of Warsaw, and the following brothers and sisters: Dr. E. C. Richardson, of East Pembroke, Dr. C. G. Richardson, of Eldred, Pa., Mrs. W. E. Evans, of Warsaw, and Mrs. C. L. Arnold, of Detroit, Mich.

He was a member of the Eighth District Society and the American Dental Association.



Vermont State Dental Society.

The twenty-second annual meeting of the Vermont State Dental Society will be held at Hotel Berwick, Rutland, March 16 to 18, 1898.

THOMAS MOUND, Rec. Secy.

GRACE L. BOSWORTH, Cor. Secy.

North Carolina State Dental Society.

The twenty-fourth annual meeting of the North Carolina State Dental Society will convene at Fayetteville, N. C., on Wednesday, May 11, 1898. All dentists in good standing are cordially invited to be present.

The State Board of Dental Examiners will meet at the same place on Monday, May 9, preceding for the examination of all candidates for license to practice dentistry in this State.

C. W. BANNER, Secy,
Mount Airy, N. C.

St. Louis Dental Society.

At the regular monthly meeting of the St. Louis Dental Society, held at the Lindell Hotel, on the 4th of January, the officers for the ensuing year were elected. Dr. John G. Harper, president; Dr. M. C. Marshall, vice-president; Dr. James C. Chisholm, corresponding secretary; Dr. W. G. Cox, recording secretary; Dr. A. J. Prosser, treasurer. Committee on Ethics and Election: Drs. W. N. Conrad, J. P. Harper, J. G. Pfaff. Committee on Publications: Drs. J. H. Kinnerly, F. F. Fletcher, Emma E. Chase.

Meetings will be held the first Tuesday evenings of each month at the Lindell Hotel.

JAMES C. CHISHOLM, Cor. Secy.,
St. Louis, Mo.

Massachusetts Board of Registration in Dentistry.

A meeting of the Massachusetts Board of Registration in Dentistry for the examination of candidates will be held in Boston, Monday, March 7, 1898, at 10 A. M., at Harvard Dental Infirmary, North Grove street. Examination in operative dentistry at 11 o'clock.

Each candidate must come prepared with rubber dam, gold and instruments to demonstrate his skill in operative dentistry. Any one who wishes may bring his patient. So far as possible patients will be furnished.

The theoretic examination will include Anatomy, Physiology, Histology, Chemistry, Pathology, Materia Medica, Operative and Prosthetic Dentistry.

All applications, together with the fee of twenty dollars, must be filed with the secretary of the Board on or before March 1, as no application for this meeting will be received after that date. The next meeting will be held in June, 1898.

G. E. MITCHELL, D.D.S., Secretary,
25 Merrimack street, Haverhill, Mass.

Washington City Dental Society.

At the regular monthly meeting, and thirty-first annual banquet, of the Washington City Dental Society held at the Oxford Hotel, Dec. 14, 1897, the following officers were elected for the ensuing year: W. N. Cogan, president; C. W. Appler, vice-president; R. W. Talbott, secretary; M. F. Finley, treasurer; H. B. Noble, librarian; J. H. P. Benson, essayist.
R. W. TALBOTT, Secretary.

1111 F street, N. W., Washington, D. C.